UMTA-MA-06-0049-85-3

HE
18.5
.A37
no.
DOT-
TSC-
UMTA-
85-25

epartment
unsportation
an Mass
sportation
inistration

National Ridesharing Demonstration Program: Employer- and Community-Based Rideshare Promotion in Cincinnati, OH

MAY 4 1990

UMTA/TSC Evaluation Series

Final Report
December 1985

UMTA Technical Assistance Program

NOTICE

This document is disseminated under the sponsorship of the Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or use thereof.

NOTICE

The United States Government does not endorse products or manufacturers. Trade or manufacturers' names appear herein solely because they are considered essential to the object of this report.

HE
18.5
A37
no.
DOT-
TSC-
UMTA-
85-25

Technical Report Documentation Page

1. Report No.	2. Government Accession No	3 Recipient's Catalog No
UMTA-MA-06-0049-85-3		

4. Title and Subtitle	5 Report Date
NATIONAL RIDESHARING DEMONSTRATION PROGRAM: EMPLOYER- AND COMMUNITY-BASED RIDESHARE PROMOTION IN CINCINNATI, OH	December 1985
	6 Performing Organization Code: DTS-49
7. Author(s): Guillaume Shearin, II	8. Performing Organization Report No.: DOT-TSC-UMTA-85-25
9. Performing Organization Name and Address: Crain and Associates, Inc.* 343 Second Street, Suite F Los Altos, CA 94022	10 Work Unit No. (TRAIS): UM627/U6613
	11 Contract or Grant No.: DOT-TSC-1755
12. Sponsoring Agency Name and Address: U.S. Department of Transportation Urban Mass Transportation Administration Office of Technical Assistance Washington, DC 20590	13 Type of Report and Period Covered: Final Report May 1980 - June 1982
	14 Sponsoring Agency Code: URT-30

15. Supplementary Notes

*Under contract to: U.S. Department of Transportation
Research and Special Programs Administration
Transportation Systems Center
Cambridge, MA 02142

16. Abstract

The Cincinnati ridesharing demonstration project (Project Rideshare) began in May 1980 to promote carpooling, vanpooling, and transit usage through the three-state area of greater Cincinnati. Key elements of the demonstration included employer-, community-, and region-based promotion. Matching applications totaled 15,000 over two years, leading to an estimate of 3000 commuters influenced or helped to some degree to start ridesharing or using transit. Promotion was focused on the largest employers, with project records indicating contact with 37% of firms with 100+ employees. A main result of the demonstration was an increase in awareness of where to find ridesharing information from 12% of adult residents in 1980 to 45% in 1982. Community-based ridesharing was ineffective. Although other project results appeared cost effective compared with other ridesharing projects, virtually no effect was observed on commute behavior at the regional level. Analysis of a stratified sample of 180 employers and 2700 employees found little association between employer or Project Rideshare promotion and ridesharing. Employer size was the most important factor investigated. Most ridesharing appeared to occur for economic reasons, though convenience and social factors were also important.

17 Key Words	18 Distribution Statement
Ridesharing, Carpool, Vanpool, Community-Based Ridesharing, Employer-Based Ridesharing, Demonstration, Ridesharing Factors	Document available to the public through the National Technical Information Service, Springfield Virginia 22161

19 Security Classif (of this report)	20 Security Classif (of this page)	21 No of Pages	22 Price
Unclassified	Unclassified	176	

PREFACE

This report has been prepared for the Transportation Systems Center (TSC) by Guillaume Shearin of Crain & Associates, Inc. (C&A). There are many contributions from others to be acknowledged. David Koffman of C&A provided final editing and technical quality control. David Damm, Joel Freilich and Rosemary Booth have acted as TSC evaluation managers for the project. Robert Redmond served as the DOT project manager for FHWA. Lawrence Doxsey of TSC constructed the sampling procedures for the TSC-designed workplace data collection. Richard Lung of Cambridge Systematics, Inc., tabulated the data.

The author also wishes to thank the Project Rideshare staff for their cooperation and participation in the data collection and evaluation process: Greg Westerbeck as Project Manager; William Jackson, Elnora Mays, and Frances Amatulli as Project Coordinators; and Linda Combs as Project Secretary.

METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
	LENGTH			
in	inches	2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
	AREA			
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2	square miles	2.6	square kilometers	km^2
	acres	0.4	hectares	ha
	MASS (weight)			
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
	VOLUME			
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft^3	cubic feet	0.03	cubic meters	m^3
yd^3	cubic yards	0.76	cubic meters	m^3
	TEMPERATURE (exact)			
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
	LENGTH			
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
	AREA			
cm^2	square centimeters	0.16	square inches	in^2
m^2	square meters	1.2	square yards	yd^2
km^2	square kilometers	0.4	square miles	mi^2
ha	hectares (10,000 m^2)	2.5	acres	
	MASS (weight)			
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
	VOLUME			
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m^3	cubic meters	35	cubic feet	ft^3
m^3	cubic meters	1.3	cubic yards	yd^3
	TEMPERATURE (exact)			
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F

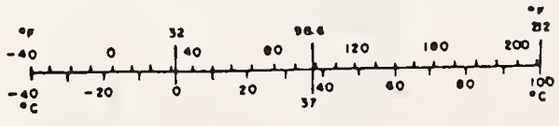


TABLE OF CONTENTS

Chapter		Page
1.	INTRODUCTION	1
	1.1 Overview of the National Ridesharing Demonstration Program	1
	1.2 Cincinnati Demonstration Project Description	2
	1.2.1 Demonstration Elements	2
	1.2.2 Goals and Objectives	2
	1.3 Evaluation Overview	3
	1.3.1 Case Study Evaluation Issues	4
	1.3.2 The Workplace Survey	5
	1.4 Organizational Roles in the Evaluation	6
	1.5 Organization of the Report	7
2.	DEMONSTRATION SETTING	9
	2.1 Geography and Population	9
	2.2 OKI Employment	9
	2.3 Transportation Characteristics	11
	2.3.1 Highway Network	11
	2.3.2 Transit	13
	2.3.3 Workplace Survey Modal Split	13
3.	PROGRAM DESCRIPTION AND DEVELOPMENT	15
	3.1 Program Organization	15
	3.1.1 Evolution of the Project	15
	3.1.2 Organization of Project Rideshare	16
	3.1.3 Funding	17
	3.2 Program Description	18
	3.2.1 Employer-Based Ridesharing Promotion	19
	3.2.2 Community-Based Ridesharing Promotion	20
	3.2.3 Regional Ridesharing Promotion	20
	3.2.4 Vanpool Services	21
	3.2.5 Ridesharing Incentives	21
	3.3 Program Development	21
	3.3.1 Initial Activities	21
	3.3.2 Institutional Problems	22

TABLE OF CONTENTS (CONT'D)

Chapter		Page
4.	EVALUATION OF INDIVIDUAL PROJECT ELEMENTS.....	23
4.1	Employer-Based Ridesharing Promotion.....	23
4.1.1	Approach and Objectives.....	23
4.1.2	Employer Outreach Participation.....	25
4.1.3	Employee Matching Results.....	28
4.1.4	Cost-Effectiveness Estimates.....	33
4.1.5	Institutional and Administrative Issues.....	39
4.2	Community-Based Ridesharing Promotion.....	41
4.2.1	Approach and Objectives.....	41
4.2.2	Elsmere, Kentucky.....	42
4.2.3	Fairfield, Ohio.....	43
4.2.4	Mason, Ohio.....	43
4.2.5	Assessment of Community Programs.....	44
4.3	Regional-Based Ridesharing Promotion.....	44
4.3.1	Approach and Objectives.....	44
4.3.2	Effect of Information and Matching.....	45
4.4	Vanpool Services.....	47
4.4.1	Approach and Objectives.....	47
4.4.2	Institutional Issues.....	47
4.5	Ridesharing Incentives.....	48
4.5.1	Approach and Objectives.....	48
4.5.2	Ride Pool Lot Program.....	48
4.5.3	Administrative and Institutional Problems.....	51
4.6	Attainment of Objectives.....	52
5.	PROJECT RIDESHARE AND EMPLOYER INFLUENCES ON LOCAL COMMUTE BEHAVIOR.....	55
5.1	Overview.....	55
5.1.1	Evaluation Approach.....	55
5.1.2	Evaluation Issues.....	55
5.2	Employer Ridesharing Promotion.....	57
5.2.1	Employer Exposure to Project Rideshare.....	57
5.2.2	Employer Ridesharing Assistance.....	62
5.2.3	Characteristics of Employers by Participation.....	68
5.2.4	Employer Attitudes Toward Ridesharing..	70

TABLE OF CONTENTS (CONT'D)

Chapter		Page
5.3	Employee Ridesharing Participation	74
5.3.1	Employee Contact with Ridesharing Promotion	74
5.3.2	Employee Ridesharing	79
5.3.3	Changes in Commute Mode	84
5.3.4	Reasons for Carpooling and Vanpooling	88
5.3.5	Characteristics of Ridesharers, Solo Drivers, and Others	96
6.	CONCLUSIONS AND TRANSFERABLE IMPLICATIONS	101
6.1	Case Study Conclusions	101
6.2	Transferable Implications	102
APPENDIX A.	WORKPLACE SURVEY DESIGN AND METHODOLOGY	A-1
APPENDIX B.	DEMONSTRATION PROMOTIONAL MATERIALS	B-1
APPENDIX C.	PROJECT SURVEY DOCUMENTATION	C-1
REFERENCES		R-1

LIST OF ILLUSTRATIONS

Figure		Page
2-1	THE OKI REGION	10
2-2	MAJOR EMPLOYERS	12
3-1	PROJECT RIDESHARE ORGANIZATION WITHIN OKI COG	17
4-1	RIDE POOL PARKING LOTS	50

LIST OF TABLES

Table		Page
2-1	CINCINNATI AREA MODAL SPLIT BY EMPLOYER SIZE.....	14
3-1	PROGRAM FUNDING BY SOURCE.....	18
3-2	PROJECT COSTS BY PROGRAM ELEMENT.....	19
4-1	EMPLOYER OUTREACH BY FIRM SIZE.....	26
4-2	UTILIZATION OF MATCH LISTS.....	29
4-3	MODE SHIFT OF MATCH LIST RECIPIENTS.....	31
4-4	BENEFIT/COST ANALYSIS OF PROJECT RIDESHARE.....	34
4-5	SOURCE OF GENERAL PUBLIC APPLICATIONS.....	46
4-6	RIDE POOL SURVEY RESULTS.....	51
4-7	ATTAINMENT OF OBJECTIVES.....	53
5-1	EMPLOYER EXPOSURE TO PROJECT RIDESHARE.....	58
5-2	MARKETING CONTACT WITH SURVEYED FIRMS.....	59
5-3	ESTIMATED EMPLOYER FAMILIARITY AND CONTACT WITH PROJECT RIDESHARE BY FIRM SIZE.....	61
5-4	STARTING TIME OF RIDESHARING ASSISTANCE BY TYPE...	63
5-5	TYPE OF EMPLOYER COMMUTE ASSISTANCE PROVIDED.....	66
5-6	TYPE OF CARPOOL/VANPOOL FORMATION ASSISTANCE.....	67
5-7	SELECTED EMPLOYER CHARACTERISTICS BY EXPOSURE TO PROJECT RIDESHARE AND INVOLVEMENT IN EMPLOYEE RIDESHARING ASSISTANCE.....	69
5-8	EMPLOYERS' REASONS FOR PROVIDING EMPLOYEE TRANSPORTATION ASSISTANCE.....	72
5-9	ADVANTAGES AND DISADVANTAGES OF EMPLOYER-SPONSORED RIDESHARING PROMOTION.....	73
5-10	EMPLOYEE FAMILIARITY WITH PROJECT RIDESHARE.....	75

LIST OF TABLES (CONT'D)

Table		Page
5-11	EMPLOYEE EXPOSURE TO RIDESHARING PROMOTION BY FIRM SIZE	78
5-12	COMMUTE MODE BY EXPOSURE TO EMPLOYER-SPONSORED RIDESHARING ASSISTANCE	80
5-13	EMPLOYEE RIDESHARING MODE SPLIT BY EXPOSURE TO RIDESHARING ASSISTANCE AND FAMILIARITY WITH PROJECT RIDESHARE	82
5-14	RIDESHARING MODE SPLIT BY EMPLOYER-SPONSORED RIDESHARING ASSISTANCE AND FIRM SIZE	83
5-15	REGIONAL COMMUTE MODE SPLIT BEFORE AND AFTER THE DEMONSTRATION	85
5-16	LENGTH OF RIDESHARING BY EXPOSURE TO EMPLOYER-SPONSORED RIDESHARING ASSISTANCE AND FAMILIARITY WITH PROJECT RIDESHARE	87
5-17	LENGTH OF RIDESHARING BY EMPLOYER INVOLVEMENT	89
5-18	CARPOOLERS' REASONS AND INCENTIVES FOR CARPOOLING	90
5-19	TOP PRIORITY FACTORS IN COMMUTE MODE CHOICE OF RIDESHARERS, SOLO DRIVERS, AND OTHERS	93
5-20	EMPLOYEES' USE OF PROJECT RIDESHARE ASSISTANCE BY CURRENT COMMUTE MODE	95
5-21	DEMOGRAPHIC CHARACTERISTICS OF RIDESHARERS, SOLO DRIVERS, AND OTHERS	97
5-22	WORK-RELATED CHARACTERISTICS OF RIDESHARERS, SOLO DRIVERS, AND OTHERS	99

EXECUTIVE SUMMARY

This executive summary outlines the implementation and results of the National Ridesharing Demonstration Project in the Ohio-Kentucky-Indiana (OKI) or Cincinnati region. Cincinnati was one of 65 demonstration sites supported under the National Ridesharing Demonstration Program (NRDP). The program was jointly sponsored by the Federal Highway Administration (FHWA), the Urban Mass Transportation Administration (UMTA), and the Office of the Secretary of Transportation (OST).

The Transportation Systems Center (TSC) evaluated 17 of these projects under the Service and Methods Demonstration (SMD) Program. Five sites, including Cincinnati, received additional funds for an extensive workplace survey of employer and employee participation in ridesharing.

DEMONSTRATION DESCRIPTION

The Cincinnati ridesharing demonstration project, Project Rideshare, promoted carpooling, vanpooling, and transit usage throughout the three-state area of greater Cincinnati. Although demonstration funding was not received until August 1980, the demonstration began some activities in May 1980. Although the available NRDP funds had been expended in June 1982, demonstration related activities continued until the end of 1982. At this point, $575,000 had been expended, including $116,000 in NRDP funds.

Operating under the Ohio-Kentucky-Indiana Regional Council of Governments (OKI COG), Project Rideshare built upon several separate ridesharing efforts to form a comprehensive ridesharing program consisting of the following five elements that became the basis of an ongoing regional program:

1. Employer-based ridesharing, including promotion of carpools, vanpools, and subscription services;

2. Community-based ridesharing programs in three communities, which would provide much of the organization and promotion;

3. Regional ridesharing, consisting of promotion, matching services, and information provided to the general public;

4. Van subscription services, including owner-operated and third-party vanpools and mixed commute and mid-day service by taxi and paratransit operators; and

5. Incentives, including provision of ridesharing parking spaces, low parking rates, vehicles, work hour flexibility, and priority traffic control.

Specific objectives of the demonstration included:

1. Increase average auto occupancy from 1.2 to 1.5 for areawide work trips;

2. Reduce vehicle miles traveled (VMT) by 1.5% for areawide work trips;

3. Provide access to job opportunities for 150 persons from minority and low-income groups;

4. Reduce areawide linehaul work trips by 4,200 trips daily by 1982; and

5. Reduce total personal vehicle operating cost expenditures by more than $2.88 million or five times the two-year cost of the area ridesharing program.

A demonstration staff of five formed a separate ridesharing department within OKI COG that was parallel to the other organizational departments and reported to the executive director. Positions included a project manager, three ridesharing coordinators, and a project secretary. An important feature of the formation of Project Rideshare was the hiring of management staff specifically for implementation of the ridesharing program. This procedure avoided conflicts that might have resulted from transferring existing planning staff to implementation responsibilities.

DATA COLLECTION AND EVALUATION

Data collection and evaluation are focussed around two overlapping activities:

1. The case study data collection and evaluation of the level conducted at most of the 17 sites evaluated by TSC under the SMD program, and

2. A cross-cutting analysis performed by TSC and based on workplace surveys using stratified samples of employers and employees at five sites, including Cincinnati.

This study reports the results of both the standard case study level analysis and the preliminary analysis of the 1982 Cincinnati workplace survey. Data collection for the evaluation consisted of several relatively minor surveys conducted by Project Rideshare or other Cincinnati agencies, project records, and the TSC-designed workplace survey. The case study issues addressed by the evaluation include the type and frequency of marketing activities conducted, the number and size of employers contacted, the nature of incentives provided, number of match lists furnished and pooling arrangements formed, and the level of cost effectiveness achieved by the program.

The workplace survey consisted of a TSC-designed questionnaire that was administered in the University of Cincinnati's name by Project Rideshare to about 2,700 Cincinnati area employees through the cooperation of a sample of about 180 employers, stratified by size. A separate employer questionnaire gathered information on the characteristics of these participating firms and their involvement in employee transportation. The evaluation issues addressed at the case study level by the preliminary workplace survey analysis include the level of participation in ridesharing by employers and employees and the factors influencing that participation.

Another way of thinking about the evaluation structure is that the case study evaluation issues consider what Project Rideshare did, what funds were expended, and what results were achieved among the persons in contact with the project. Most of the case study results are descriptive, although a limited effort is made to determine the effectiveness of the project based on project records and minor surveys. The preliminary workplace survey issues, on the other hand, address the region as a whole to determine the project's effectiveness. A much more rigorous attempt is made to determine the regional level of ridesharing and the relative influence in causing that ridesharing of Project Rideshare promotion, employer ridesharing promotion, and other factors.

The results of the case study evaluation are outlined in the following section on evaluation of the individual project elements. The workplace survey analysis is summarized in the section on regional ridesharing and the workplace survey. This executive summary ends with a discussion of the study conclusions and transferable implications.

EVALUATION OF INDIVIDUAL ELEMENTS

The results of matching and ridesharing marketing overlap both the employer-based and regional ridesharing elements. To

avoid repetition, data that relate to both elements are discussed under employer-based ridesharing promotion.

Employer-Based Ridesharing Promotion

This element was the major focus of the demonstration, accounting for approximately half of total costs. The concept utilized the concentration of employees and resources at larger employers to achieve greater efficiency in promotion than could be achieved by Project Rideshare alone. Emphasis was on depth of service to employers rather than breadth to permit the follow-up necessary to generate ongoing employer ridesharing programs.

Promotion to employers included outreach activites such as personal contacts, ridesharing presentations, requests for cooperation, and assistance with matching. The outreach activities were supported by general promotion consisting of free publicity and media events to attract the attention of area employers.

A reasonable amount of contact was achieved with area employers compared with other ridesharing programs. According to project records, 344 or about 1% of all the firms in the region were contacted by Project Rideshare. Almost a third of these employed 500 or more employees and were the result of a virtual saturation marketing effort that contacted 91% of these largest employers. Almost half of the firms contacted came from the 100-499 employee category and represent about a fourth of all the firms in this size category.

According to project records, 35% of the firms contacted began ridesharing programs, including about 2% that already had a program and wished assistance in expanding it. In terms of the total cost of the element, this is about $800 per firm contacted and $2,300 per firm implementing a ridesharing program. However, successive Greater Cincinnati surveys in the most metropolitan county revealed no change in the percentage of respondents in 1980 and 1982 (31% ±3%) who worked for employers furnishing ridesharing information to their employees. Additionally, the workplace survey estimated that of employers assisting carpool or vanpool formation, 84% began to do so before the demonstration began. The most likely reasons for the discrepancy between project records and these other sources are thought to be a combination of sampling error and some employers' labeling their minimum efforts as viable ridesharing programs.

The matching services shared by the employer-based and regional elements achieved excellent results for a new ridesharing program. Over the two-year period of the demonstration, approximately 15,000 matching requests were

processed. About 80% to 90% of the applications resulted from employer-based promotion, with the rest resulting from the regional ridesharing promotion. Midway through the demonstration period, the University of Cincinnati received 1,400 responses to a questionnaire mailed to all 6,600 ridesharing applicants on file. The survey found that 11% of the responding applicants said that they had been influenced by Project Rideshare to begin ridesharing and that they were still ridesharing at the time of the survey. Another 10% of the respondents said that they had been influenced to continue ridesharing by Project Rideshare and were still ridesharing. A telephone survey of 560 applicants conducted by the project after the demonstration was over found that 22% of responding applicants said that the project had influenced or helped them to start ridesharing and that they were still ridesharing. A corresponding 5% of the surveyed applicants said they had been influenced or helped to continue ridesharing and were still ridesharing.

Cost-effectiveness studies based on the midpoint survey were conducted by both project staff and the evaluation contractor. The analyses estimated a benefit/cost ratio and other statistics for the project through the end of February 1982, four months before the NRDP funds ran out. The ratio and some other derived parameters are:

	High Estimate	Low Estimate
1. $/matching application	$43	$43
2. $/commuter influenced to start or continue ridesharing	$331	$3,103
3. Benefit/cost ratio	6.0	0.6
4. $/VMT reduced over life of influenced carpools	$.032	$.29

Project Rideshare was also quite instrumental in the passage of a model ridesharing law in the Ohio legislature in 1982. Previous to the passage of the law, the status of vanpooling was unclear at best.

Community-Based Ridesharing Promotion

Despite extensive efforts in three communities in the region, very little was achieved in the community-based ridesharing programs. All were abandoned before the end of the demonstration. The three communities tested were Elsmere,

Kentucky, and Fairfield and Mason, Ohio, with populations of 6400, 35,000, and 8600, respectively.

Ridesharing marketing in the communities generally consisted of newspaper articles, support by community leaders and organizations, and mailing ridesharing information and matching applications to commuters. Matching applications were received from only 17 individuals in Elsmere and 22 in Mason, about 1% of their respective populations. No separate records were kept for Fairfield. No carpools are known to have been formed.

Prorating the element cost of $60,460 to only two of the three communities suggests a cost per applicant of over $1,000. Thus, the community programs cost over 20 times as much as the general program per ridesharing applicant.

Regional Ridesharing Promotion

The regional or general public ridesharing promotional program promoted ridesharing to commuters not reached by the employer-based marketing. Although most of the results of the regional program are included in the employer-based summary, three additional points deserve mention. First, the Greater Cincinnati survey results indicated that awareness of where to find ridesharing information went up from 12% of respondents in 1980 to 43% in 1982, a dramatic increase. Given that the percentage of respondents whose employers furnished ridesharing information to their employees stayed constant at 31% over this period, much of this increase could probably be attributed to the demonstration program. Second, about half of the regional applicants received information about the program from freeway signs, indicating that such signs are the single most cost-effective means of reaching the general public. (The total cost of the signs was on the order of $1000, compared with a cost for the program element of $140,000.)

Third, the general public applicants were half again more likely to call the persons on their match lists, indicating higher motivation. However, due to sparse match lists, especially early in the program when the matching file was small, satisfaction with the matching program was not as high as for the employer-based matchlist recipients.

Vanpool Services

Due to delays in funding, the third-party vanpool program did not begin until the close of the demonstration, too late to get any vanpools on the road. However, the demonstration could take partial credit for vanpools placed later because of the groundwork accomplished during the demonstration period. The

funding delays centered around the desire of the Ohio Department of Transportation (ODOT) to have a government body with taxing authority as the implementing agency because of potential liability from vanpool operations. To resolve the problem, Hamilton County, Ohio, became the official implementing agency.

Ridesharing Incentives

Two experimental Ride Pool lots were evaluated by Project Rideshare for possible expansion to a larger program. Cars with three or more persons parked daily for half price ($1) in one lot and for free in the other. Because of administrative problems and low effectiveness of the lots--only 8% to 21% of the users formerly drove alone--the project staff recommended termination of the lots. The administration difficulty lay in the lot users' wanting to have a carpool registration system that would let them drop off their passengers first, while the City of Cincinnati, which adminstered the lots, preferred the simpler system of giving a discout based on the occupancy of the automobile as it arrived at the lot.

Attainment of Objectives

The two sets of data analyzed for this project present widely divergent conclusions about the attainment of objectives. Project records and surveys provide high estimates of project outcome measures. These measures suggest that the project easily met the commuter cost saving and work trip reduction objectives, but not the areawide auto occupancy and VMT reduction objectives. The workplace survey provides low estimates of project outcome measures and suggests that the project did not come close to meeting any of the objectives.

To resolve the views presented by the two data sources, it may be best to average the two sets of project outcome measures. The average also indicates that Project Rideshare fell far short of the objectives.

REGIONAL RIDESHARING AND THE WORKPLACE SURVEY

The workplace survey attempted to define the level of regional ridesharing and its determinants. The questions addressed at the case study level include the degree of employer contact with Project Rideshare, the degree and length of employer assistance to employee transportation, employer attitudes about such assistance, and the characteristics of participating and non-participating employers. Questions addressed to employees similarly pursued their degree of

ridesharing as a function of employer participation and contact with Project Rideshare, changes in commute mode, reasons for ridesharing, and characteristics of ridesharers, solo drivers, and others.

The next two subsections highlight the findings for these employer and employee questions, respectively. It should be emphasized that all of these findings are the consequence of weighting survey responses inversely to the sampling ratios. All differences mentioned are statistically significant at the 95% level, based on raw sample sizes.

Employer Involvement in Ridesharing

An estimated 22% of all employers in the OKI region are familiar with the activities of Project Rideshare. About 5% indicated that they had been in contact with the demonstration project. Most firms in contact had received only ridesharing information from Project Rideshare.

Both familiarity and contact generally increased with employer size. Among 500+ employers, over 60% were familiar with and about 50% had been in contact with Project Rideshare.

Employer ridesharing assistance to employees is defined as actual assistance in forming pools, furnishing ridesharing incentives, or providing vanpool vans. Based on this limited definition, about 3% of the regional employers were estimated to be providing ridesharing assistance.

Employer ridesharing assistance increased with employer size and contact with Project Rideshare for firms of 100 or more employees. For those employing 500 or more, 67% in contact offered assistance compared with 33% not in contact. However, because few firms were estimated to have begun assistance after the start of demonstration, the role of Project Rideshare in causing any assistance was unclear. Survey sample error and disagreement over what constituted an existing ridesharing program are thought to account for the discrepancy between this conclusion and project records' noting that 35% of employers contacted began ridesharing programs.

The most common form of transportation assistance was the provision of company cars by an estimated half of the regional employers. Employers providing general transportation assistance were doing so to give employees additional fringe benefits. In comparison, those providing ridesharing assistance were most concerned with responding to a fuel crisis.

The most important barriers to sponsoring ridesharing programs were the beliefs that ridesharers would not work late,

programs were difficult to initiate, and few employee benefited. The most important perceived benefits to sponsoring ridesharing programs were conserving energy, relieving traffic congestion, and improving employee punctuality.

Breaking Project Rideshare employer contact down by employer size, business sector and provision of employee ridesharing assistance, size rather than business sector was seen to determine the rate of employer participation in ridesharing. There was no significant difference in participation rates by sector for firms over 100 employees. Of the 100+ firms, 10% were in contact with Project Rideshare and furnishing ridesharing assistance and 18% were not in contact but were furnishing assistance.

Employee Ridesharing Participation

About 194,000 or 37% of all employees in the OKI region are estimated to be familiar with the activities of Project Rideshare and/or to have been exposed to employer ridesharing promotion. Of the 24% of area employees reporting familiarity with Project Rideshare, about one-third had received information on carpooling or vanpooling. About 10% to 11% of those reporting familiarity had received either a match list or transit information.

An estimated 22% of the regional employees worked for employers who furnished ridesharing assistance. Those firms in contact with Project Rideshare were much more likely to be furnishing ridesharing assistance to their employees than those not in contact (69% compared with 10%), because both contact and assistance increased with firm size. While only 5% of area firms are in contact with Project Rideshare, 20% of area employees work for firms in contact--again because contact is related to firm size.

Likewise, the proportion of employees familiar with Project Rideshare and/or exposed to employer ridesharing assistance increased with employer size. For instance, among firms in contact with Project Rideshare, 94% of the employees who were both familiar with Project Rideshare and exposed to employer ridesharing assistance worked for 500+ firms.

The regional mode split defined by the workplace survey was:

70% drive alone
19% carpool or vanpool
8% transit
2% walk or bike
1% other

Higher levels of ridesharing were generally associated with employer ridesharing assistance rather than employee familiarity with Project Rideshare. A comparable association was noted for new ridesharers, those who had been pooling for less than two years.

As might be expected, the level of ridesharing increased with both employer size and the level of assistance. Compared with a regional average of 19% of employees ridesharing, ridesharing approached about 30% both in the 500+ firms and among the employees of firms in contact with Project Rideshare and providing assistance to their employees. However, firm size instead of increased ridesharing assistance appears to cause the major part of the increased ridesharing activity found among the larger firms. It is thought that the major reason for the increased ridesharing among large employers is that ridesharing is easier because of more opportunity for ridesharing partners at the same work site.

Based on the workplace survey, there was no significant change in ridesharing mode split from before to after the demonstration. There was a statistically significant increase in driving alone over this period, coupled with lesser decreases in transit use and walking. The drop in transit use and the increase in driving alone was attributable mainly to the mode changes made by those who changed work or residence location over the two years of the demonstration.

Based on commuter responses, most ridesharing appears to be for economic reasons, though convenience and social factors are also important. Most ridesharers formed their pool through informal contact at the work or home end of the trip and made no use of ridesharing incentives, computer matching, or employer ridesharing programs. To state these results another way, perhaps about 10% of those ridesharing have used ridesharing information, assistance, or incentives, but the fraction caused to rideshare by these three items is debatable.

When asked about their reasons for generally choosing their commute mode, ridesharers most often favored convenience, cost, and fast travel time, in that order. In comparison, solo drivers most often favored convenience, fast travel times, and schedule requirements, in that order. Others (mostly transit users) favored cost, convenience, and fast travel time.

Of those receiving ridesharing assistance from Project Rideshare, about 9% used it to start pooling. An estimated 80%

of those receiving assistance did not use it, partly because of conflicts with schedules and commute routes. However, a more important reason is thought to be the lack of interest resulting from unsolicited ridesharing information passed through employers.

Finally, there were only minor differences in the characteristics of ridesharers, solo drivers, and others (mostly transit users). Ridesharers and transit users were more likely to be female. Ridesharers had fewer with very low or very high incomes compared with solo drivers, while transit users had lower incomes than either ridesharers or solo drivers. More ridesharers had fixed hours set by their employer, and a higher proportion worked in clerical jobs. In general, transit users were more like ridesharers than solo drivers, but included more blacks and transit dependents than either of the other mode users.

CONCLUSIONS AND TRANSFERABLE IMPLICATIONS

The following points summarize the conclusions supported by the case study analysis:

1. The marketing strategy of approaching the larger firms in the region efficiently used Project Rideshare resources to contact commuters and encourage ridesharing.

2. The carpool placement rates and measures of cost effectiveness indicate that Project Rideshare carpool promotion achieved reasonable results compared with those of many other public ridesharing programs. It is not known if increased funding would lead to proportional results on a micro level and measurable results on a regional level.

3. Community-based ridesharing is not a cost-effective technique in the Cincinnati area, despite high community cohesion and identity.

4. Based on the Greater Cincinnati surveys administered in 1980 and 1982, awareness of where to find ridesharing information went up from 12% of respondents in 1980 to 43% in 1982, a dramatic increase probably attributable to the demonstration project.

5. Funding difficulties caused slow implementation of third-party vanpooling during the demonstration. However, the concept may have potential for the future and will benefit from the resolution of institutional difficulties accomplished by the project.

6. Although Project Rideshare did not rely on the OKI Regional Council of Governments for name recognition, the staff felt that the skill of the OKI COG in coordinating planning and its regional recognition were important factors in reducing institutional problems experienced in marketing ridesharing to a three-state area.

7. Even though a reasonable percentage of employers contacted by Project Rideshare started ridesharing programs, analysis of both project records and the workplace survey showed that the role of Project Rideshare in generating effective new employer programs is not clear.

8. Although the amount of ridesharing increases with employee exposure to Project Rideshare and employer-based promotion, the strongest association is with increasing employer size. Additionally, most ridesharing in the OKI region is the consequence of economic and convenience factors that appear to have nothing to do with ridesharing promotion from either Project Rideshare or employers.

There are two transferable implications of the Cincinnati demonstration.

1. The use of a planning agency that is recognized as the leading transportation coordinator in the area appears to be a good strategy for implementing a multi-state ridesharing program.

2. Ridesharing promotion focused through the largest employers in an area appears to be a good strategy for reaching a large proportion of regional employees efficiently. The efficiency of contact must be balanced against the tendency for a higher proportion of employees in larger firms to form ridesharing arrangments on their own compared with smaller firms.

A limitation on transferability for the first point might arise if there were rivalries with other agencies who desired to lead the demonstration or if the employers of an area were not receptive to planning agencies.

1. INTRODUCTION

1.1 OVERVIEW OF THE NATIONAL RIDESHARING DEMONSTRATION PROGRAM

To assess the benefits of ridesharing, the Department of Transportation established a National Ridesharing Demonstration Program (NRDP) in 1979. The Federal Highway Administration (FHWA), the Urban Mass Transportation Administration (UMTA), and the Office of the Secretary (OST) jointly sponsored the two-year program. During the period 1979 to 1982, the program funded 65 projects representing a variety of geographic areas and demographic characteristics. Projects included carpooling; owner-operated, employer-sponsored, and third-party vanpooling; and van subscription service by taxi and paratransit operators. Incentives included preferential parking rates and spaces, preferential treatment on highways, employee flex-time, vanpool subsidy arrangements, company-based transportation coordinators, custom-designed employee transportation programs, and residential neighborhood incentive programs.

The Transportation Systems Center (TSC) conducted case study evaluations of 17 of these demonstration projects under the Service and Methods Demonstration (SMD) Program. The case studies document the innovations tried at each site, the implementation process, the number of ridesharing arrangements formed, and the costs of the project. Because many of the demonstration projects which were evaluated addressed employer-based ridesharing, the case studies focus on the effects of ridesharing promotion on employer ridesharing efforts and the resulting effects on employee ridesharing.

To permit a comparative analysis among sites, 5 of the 17 sites participated in more extensive data collection. The in-depth issues included assessment of the ridesharing market potential, the effectiveness of innovations, institutional problems, and the savings in vehicle miles traveled (VMT) and energy. Using survey instruments and procedures designed by TSC to ensure consistency, postdemonstration surveys were conducted in Portland, Seattle, Atlanta, Houston, and Cincinnati. These surveys provide a more detailed look at the relationships between ridesharing promotion, employer ridesharing participation, employee ridesharing levels, and socioeconomic and employment characteristics than was possible in the individual case studies.

As a consequence of Cincinnati's participation in this detailed data collection, the remainder of this report describes the results of both the case study evaluation and the

postdemonstration surveys. The comparative analyses of all five of the in-depth site data collections have been pursued in parallel by TSC and constitute a separate report.

1.2 CINCINNATI DEMONSTRATION PROJECT DESCRIPTION

1.2.1 Demonstration Elements

The Cincinnati ridesharing demonstration project, Project Rideshare, planned to promote carpooling, vanpooling, and transit usage throughout the three-state area of greater Cincinnati. Operating under the Ohio-Kentucky-Indiana Regional Council of Governments (OKI COG), Project Rideshare planned to build upon several separate ridesharing efforts with a comprehensive ridesharing program consisting of the following five elements:

1. Employer-based ridesharing, including promotion of carpools, vanpools, and subscription services;

2. Community-based ridesharing programs in three communities, which would provide much of the organization and promotion;

3. Regional ridesharing, consisting of promotion, matching services, and information provided to the general public;

4. Van subscription services, including owner-operated and third-party vanpools and mixed commute and mid-day service by taxi and paratransit operators; and

5. Incentives for ridesharing, including provision of convenient, low-priced, priority parking; commuting vehicles, work hour flexibility, and priority traffic control.

1.2.2 Goals and Objectives

General goals set through the OKI COG included the following [1:11-13]*:

1. Increase use of high-occupancy vehicles and reduce VMT for a given level of personal travel demand;

*This refers to pages 11 through 13 of reference 1.

2. Maintain and improve levels of access and mobility for all segments of society;

3. Conserve energy and reduce impact of supply irregularities;

4. Achieve national ambient air quality standards; and

5. Minimize total transportation related costs.

Specific objectives of the demonstration included:

1. Increase average auto occupancy from 1.2 to 1.5 for areawide work trips;

2. Reduce VMT by 1.5% for areawide work trips;

3. Provide access to job opportunities for 150 persons from minority and low-income groups;

4. Reduce areawide line-haul work trips by 4,200 trips daily by 1982*; and

5. Reduce total personal vehicle operating cost expenditures by more than $2.88 million over two years or five times the two-year cost of the area ridesharing program.

Objective #3 related to the proposed vanpool subscription services. These services were not implemented because there was neither an identified market nor funding for them. Instead, all vanpooling efforts were directed toward third-party, employer-sponsored, and owner-operated vanpools.

1.3 EVALUATION OVERVIEW

The discussion of the evaluation is divided into the case study issues and results of the workplace survey. Although occasionally some workplace survey results are used for comparison purposes, the case study issues are primarily the questions that can be answered without extensive survey results. For example, how many match lists were provided, and what is the estimated percentage of match list recipients forming carpools? Subsection 1.3.1 lists these questions, and the first half of the report is concerned with answering them.

*This objective was translated from its original wording of: "Remove at least 2,100 vehicles from the road by 1982."

The workplace survey is described briefly in subsection 1.3.2. However, the issues related to this in-depth survey and their answers are discussed later in the report. This method of organization should allow this report to be more easily compared with those of demonstration sites that are described with just a case study report.

1.3.1 Case Study Evaluation Issues

The case study evaluation questions are listed below by demonstration element. At the end, questions of transferability are considered.

1. Employer-Based Ridesharing Promotion

   a. How many employers in each size category and area were contacted by Project Rideshare?

   b. What level of assistance was given?

   c. How many and what type of ridesharing programs were known to have been implemented as a result of the contact?

   d. What type and number of employer-based promotions were accomplished?

   e. What were the costs of furnishing this service?

2. Community-Based Ridesharing Promotion

   a. How were community ridesharing sites selected?

   b. What types of ridesharing promotions were accomplished in the communities?

   c. What degree of community cooperation was obtained?

   d. What results were observed, e.g., match list requests?

   e. What were the costs of furnishing this service?

3. Region-Based Ridesharing Promotion

   a. What type and number of promotional activities were undertaken?

   b. How many match lists were furnished?

c. What was the estimated level of carpool formation attributable to the promotion?

d. What were the costs of furnishing this service?

4. Van Subscription Services

a. What types of van subscription services were investigated?

b. What legal and institutional barriers were encountered, and how did they affect implementation of any services?

c. What vanpooling arrangements were sponsored?

d. What was the cost of this element?

5. Incentives

a. What public and private ridesharing incentives were developed?

b. How many commuters took advantage of the incentives?

c. What mode shifts are attributed to the incentives?

d. What were the costs of the incentives?

6. Transferability to Other Ridesharing Agencies

a. What ridesharing approaches warrant consideration by other areas?

b. What institutional, economic, and geographic factors were related to the success or failure of these techniques?

1.3.2 The Workplace Survey

The workplace survey served two main purposes:

1. To provide data to TSC for a five-site cross-cutting analysis; and

2. To assess the effect of Project Rideshare marketing on employer ridesharing participation and the combined effect of Project Rideshare marketing and employer participation on employee ridesharing behavior.

Separate employer and employee questionnaires designed by TSC solicited information on assistance provided or received, work commute mode, and other trip characteristics both before and after the demonstration. Survey instruments were distributed to employees with the cooperation of a sample of employers stratified by size. The sample included (1) firms that had received and firms that had not received Project Rideshare marketing, and (2) firms that provided and firms that did not provide employee transportation assistance.

The data were weighted to reflect variable rates of sampling within employer size categories and differing response rates among different employer-employee subgroups. A one-question travel mode post card was distributed to a sample of employees to indicate the degree of non-response bias on the long survey form. See Appendix A for additional details on the survey design and methodology.

1.4 ORGANIZATIONAL ROLES IN THE EVALUATION

The roles of the principal actors in the evaluation are described below:

1. TSC was responsible for the evaluations performed under the National Ridesharing Demonstration Program as part of its evaluation function for UMTA's SMD program. This role included developing the evaluation framework and designing the survey instruments, administration techniques, and sampling scheme for the five sites.

2. Project Rideshare, the grantee, was responsible for drawing the survey sample, implementing the survey procedures, and editing and keypunching the data. Through record keeping and other data collection activities, Project Rideshare also obtained the data to be used in the case study evaluation. All of these activities were performed by regular and temporary staff of the project, under the auspices of the OKI Regional Council of Governments.

3. Crain & Associates (C&A), TSC's evaluation contractor, provided assistance to Project Rideshare during the survey planning and administration, re-edited and cleaned the data, and wrote the final report. Data tabulation was performed by Cambridge Systematics, Inc., another TSC evaluation contractor, to meet cross-tabulation requests by C&A. From project records and other project data sources, including interviews, C&A also compiled and analyzed data for the case study evaluation.

1.5 ORGANIZATION OF THE REPORT

This report is divided into six chapters. Following this introduction is a brief description of the demonstration setting that includes employment and transportation characteristics. Chapter 3 describes the demonstration project implementation and organization. The individual elements of the demonstration are evaluated in Chapter 4. The results of the workplace survey, a major part of the report, are discussed in Chapter 5. Chapter 6 presents the case study conclusions and implications for transferability.

2. DEMONSTRATION SETTING

2.1 GEOGRAPHY AND POPULATION

The OKI region includes an area of 2717 square miles with a population of over 1.6 million. As shown in Figure 2-1, the nine counties of the region are spread over three states. (Butler, Clermont, Hamilton, and Warren Counties are in Ohio; Boone, Campbell, and Kenton Counties are in Kentucky; and Dearborn and Ohio Counties are in Indiana.) The region includes the two SMSAs of Cincinnati and Hamilton-Middletown, Ohio [1:1].

Although 83% of the region's residents lived in urban areas in 1970, five of the nine counties are predominantly rural. These rural areas include both of the Indiana counties in the region. The urban areas of Hamilton County, which includes Cincinnati, house over 50% of the region's population. The most urbanized counties are Butler and Hamilton in Ohio and Kenton and Campbell in Kentucky [2:2.21].

The region's hilly topography influences local transportation routes and development patterns as well as contributing to air and water quality problems. The region resembles a plateau bisected by the Ohio River. The southern and western edges of the plateau have generally rugged slopes in contrast to the northern and eastern edges, which give way to gently rolling terrain. Steep slopes characterize many of the counties in the region [2:6.4].

Emissions from cars, trucks, and buses in the region are primarily responsible for having portions of the region classified as nonattainment areas for oxidant and carbon monoxide. Only the two rural Ohio counties, which have not yet been classified, are not nonattainment areas for carbon monoxide. Parts of some counties are also in violation of standards for particulates and sulfur dioxide [2:5.12].

2.2 OKI EMPLOYMENT

The OKI region had an employment base of 609,000 in 1970. In contrast to the rest of the United States, the region had a slightly higher manufacturing orientation amid its broad economic base [2:3.1].

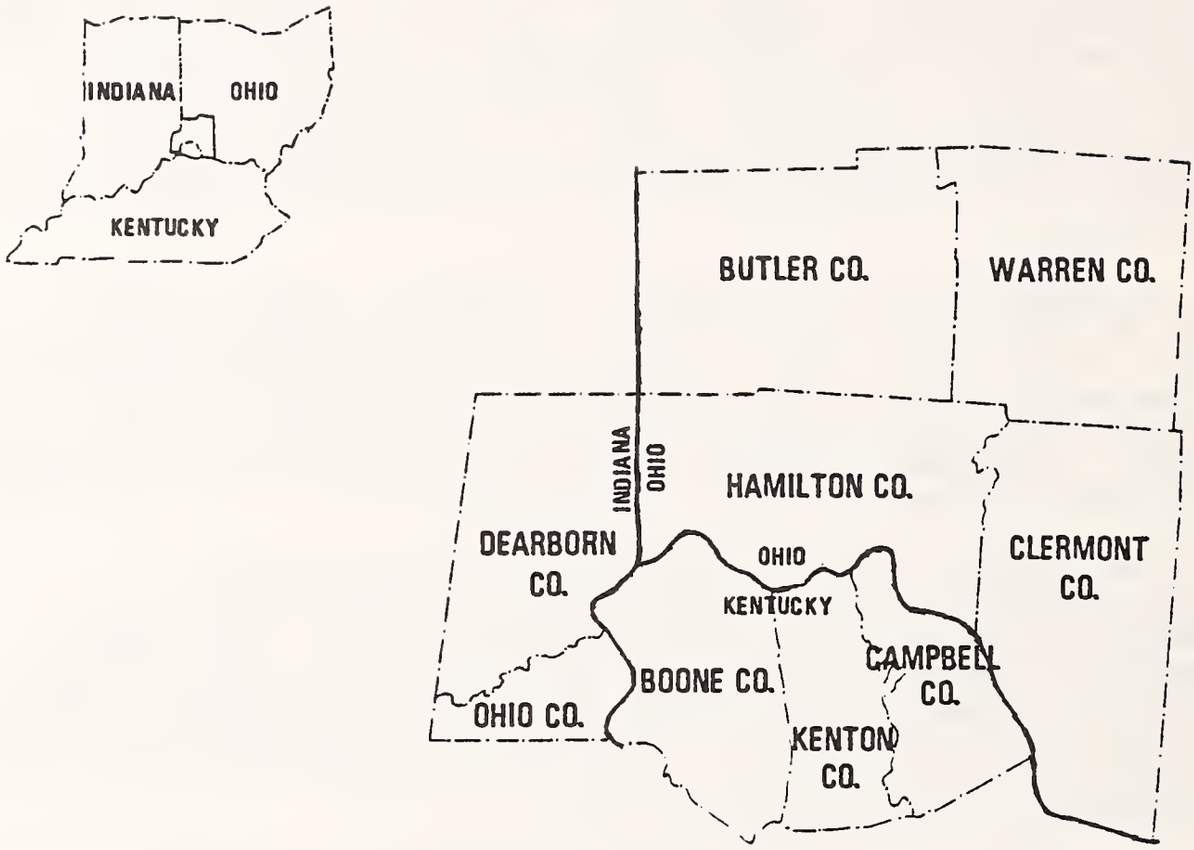


FIGURE 2-1. THE OKI REGION

Source: Reference 4, p. 1

Figure 2-2 shows the distribution of manufacturers and other major employers (of 1000 or more persons) within the region. Work trips crisscross the region, with many ending in the center of the region or on a north-south axis. Workers commonly live in one state and work in another, resulting in long work trip distances. Additionally, many large employment centers have located or are locating around the urban area's periphery, where public transit service does not exist [1:2].

To illustrate the length of work trips in the OKI region, home-to-work trips nationwide averaged 9.9 miles one-way in 1973 [3:9]. When analyzed by SMSA size, a bimodal distribution results, with peaks of 10.6 miles and 11.3 miles for SMSAs of 250,000 to 499,999 and 3,000,000+ persons, respectively. Cincinnati should fall in the valley between the peaks, corresponding to a national home-to-work trip length of 8.8 miles for SMSAs of 1,000,000 to 1,999,999 persons [3:64]. However, the workplace survey (the only available measure of home-to-work trip lengths in the OKI region) indicates that the average trip length is 10.8 miles. This is 23% above the national average for areas of comparable size.

2.3 TRANSPORTATION CHARACTERISTICS

The next three subsections describe the region's highway network, transit features, and commute modal split.

2.3.1 Highway Network

The region is divided by Interstate 75 running north-south and I-71 running diagonally toward the northeast. In addition to being served by both these highways, Cincinnati is partially ringed by I-275 and is the terminus of I-74 from Indiana. All together, the region has 209 miles of interstate highways, with 63% of the mileage in urban areas. There are also 316 miles of principal arterials in urban areas of the region [2:5.3].

Although there is some congestion during peak hours, traffic congestion is generally not a problem in the area. In the opinion of the project staff, most persons in Cincinnati do not perceive traffic to be a problem.

However, there is heavy dependence on the automobile. Census figures from 1970 indicate that 83% of all commuters in incorporated areas in the region used a private automobile to get to work. About 70% of all commuters drove alone, a total of 340,000 commuters.

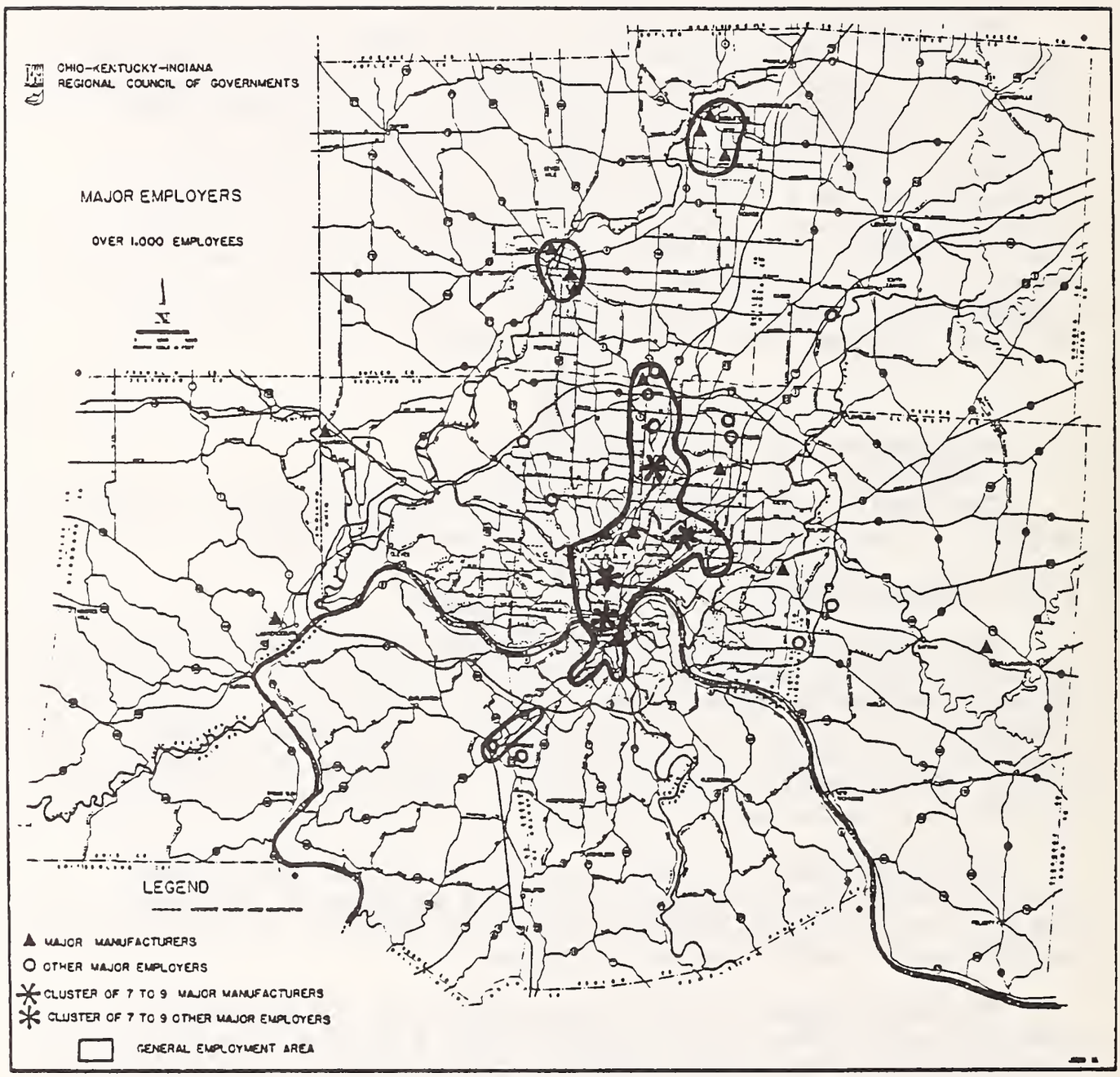


FIGURE 2-2. MAJOR EMPLOYERS

Source: Reference 4, p.3.

2.3.2 Transit

The two main transit operators in the region are the Southwest Ohio Regional Transit Authority/Queen City Metro (SORTA/QCM), serving the Cincinnati area, and the Transit Authority of Northern Kentucky (TANK). In 1979, SORTA/QCM had an annual ridership of 30,595,000 on its 42 routes and 420 buses. TANK had an annual ridership of 6,112,000 on 15 routes and 105 buses. There were also nine small transit operators in the region in 1979 [2:5.6].

A travel survey done in 1978 to update the regional planning model found that 9% of the urban and suburban work trips were being made by transit. However, of the work trips being made to the CBD from the urban area, 45% were being made by transit. Of the work trips being made to the CBD from the suburban area, 25% were being made by transit.*

2.3.3 Workplace Survey Modal Split

Table 2-1 presents an estimate of the commuter modal split based on results from the workplace survey in the Cincinnati area in April-May 1982. The mode split for all employees is quite similar to the drive alone and transit figures of 70% and 9%, respectively, mentioned earlier in this chapter. In the workplace survey, seven out of ten commuters drove alone to work while 8.3% used various forms of transit (local and express buses and buspools). Ridesharing comprised 19.2% of the trips.

The primary trend with respect to employer size is increasing ridesharing with increasing employer size. There is a corresponding decrease in driving alone with larger employers. Although only a few work trips are made by walking (1.3% on the average), employees are more likely to walk to the smaller employers than the larger ones. (Persons working at home were not included in the workplace survey.) A more detailed examination of these survey results is discussed in Chapter 5.

*From 1978 survey data as compiled by R. Evans, University of Cincinnati, August 1979.

TABLE 2-1. CINCINNATI AREA MODAL SPLIT BY EMPLOYER SIZE

EMPLOYEE COMMUTE MODE CHOICE	% OF EMPLOYEES BY FIRM SIZE				AVERAGE AMONG ALL EMPLOYEES	SAMPLE SIZE
	1-19	20-99	100-499	500+		
Drive Alone	72.8%	77.1%	67.4%	61.2%	70.4%	1808
Shared Ride	12.9	15.0	24.1	28.8	19.2	662
Local Bus	5.6	5.6	5.6	7.0	5.9	144
Express Bus	2.8	1.4	2.1	2.1	2.1	57
Buspool	0.4	0.2	0.3	0.5	0.3	10
Taxi	0.9	0	0	0.1	0.3	2
Walk	3.0	0.7	0.5	0.2	1.3	20
Cycle	1.6	0	0	0.1	0.5	4
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	2,707

Source: 1982 workplace survey, weighted results.

3. PROGRAM DESCRIPTION AND DEVELOPMENT

This chapter discusses the scope and organization of the demonstration project. The chapter first describes the organization and funding of Project Rideshare, then the project elements, and finally the general development of the project.

3.1 PROGRAM ORGANIZATION

3.1.1 Evolution of the Project

Project Rideshare was preceded by several unrelated ridesharing activities in the 1970s. These earlier projects set the stage for a comprehensive regional program by investigating different approaches to and increasing the level of awareness about ridesharing. Some of these efforts are described below [1:5-8].

1. A 1973 program for the 700 employees at the local office of the U.S. Environmental Protection Agency (EPA) was designed to overcome a parking shortage. The program, which still operates, offered information, matching, and guaranteed preferential parking. It was credited with increasing the percentage of employees carpooling to 25%.

2. A short-lived city-wide carpooling program was implemented in 1974 in response to the energy crisis. The co-operative effort by downtown businesses charged a fee of $.25 for processing an application. It resulted in only a few hundred applications and no carpool matching.

3. In 1978, Procter and Gamble started a vanpool program that had been expanded to 20 vans and all company sites by late 1979.

4. In 1979, the City of Cincinnati started an experimental ridesharing program that used two city parking lots as preferential parking facilities for carpools of three or more persons. The program was administered by Personal Mobility Committee, Inc. (PMC), a non-profit organization encouraging alternative transportation modes. The program involved public service announcements, signs advertising the parking lots, manual matching, and the

241-RIDE telephone number for information and matching. The more conveniently located lot charged $1 per day, and the less conveniently located lot was free to carpools arriving before 9:30 AM.

5. Although other chambers of commerce were also promoting ridesharing among their members, the Northern Kentucky Chamber of Commerce was most active. It sponsored and promoted pilot ridesharing projects at Northern Kentucky University and at the Northern Kentucky Industrial Park.

Building on these ridesharing efforts, the OKI Regional Council of Governments pursued a comprehensive regional ridesharing program. In 1979, the OKI COG developed matching capabilities, documents supporting ridesharing, and a ridesharing task force. A regional ridesharing program coordinated within the OKI COG was sought to bring stability, commitment, and comprehensive funding to ridesharing, to avoid duplication within the areas of the region, and to expand the concept of ridesharing to include mobility improvement.

A ridesharing task force was the vehicle for bringing together regional ridesharing interests to define the regional program. The task force included transit operators, taxi operators, planning commission members, parking lot operators, city representatives, chambers of commerce, media representatives, interested citizens, business representatives, downtown business associations, elected officials, environmental groups, labor representatives, special interest groups, state representatives, and automotive representatives [4:10].

After considering the recommendations of the task force, the executive committee of the OKI COG unanimously decided to implement a regional ridesharing program. The focus of the program was to work with and support existing ridesharing efforts and to initiate new activities for areas not covered.

3.1.2 Organization of Project Rideshare

Figure 3-1 shows the organization of Project Rideshare within the OKI Regional Council of Governments. To permit as much flexibility for the ridesharing project as possible within the OKI COG, Project Rideshare parallelled the other departments reporting to the executive director. The ridesharing program was purposely separated from the planning departments to facilitate an implementation rather than a planning perspective.

The OKI COG used open committee meetings to condense regional input into day-to-day guidance for Project Rideshare.

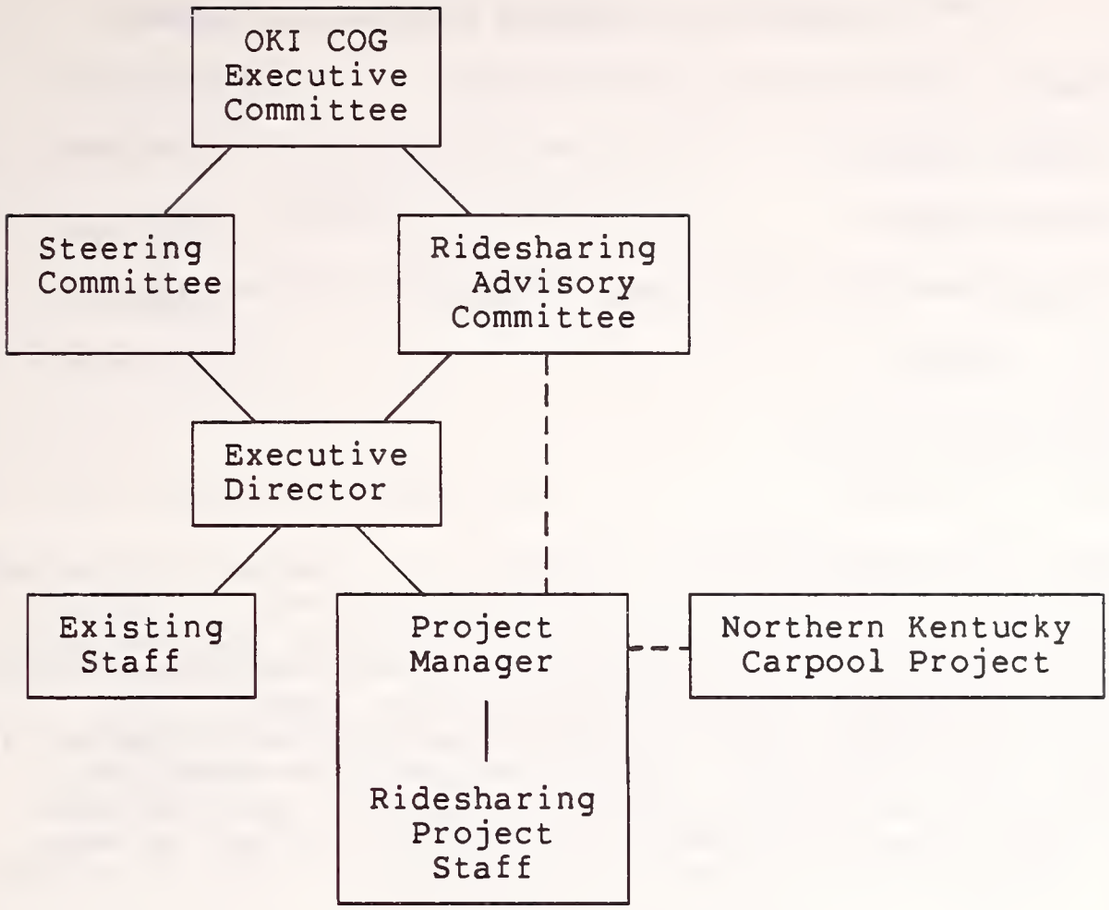


FIGURE 3-1. PROJECT RIDESHARE ORGANIZATION WITHIN OKI COG

The 27-member executive committee of the OKI COG represented the nine counties of the three-state area. Members were elected from the 103-member board of directors. The steering committee, consisting of five or more members of the executive committee, was responsible for implementation of the ridesharing program in addition to other COG programs. The ridesharing advisory committee, which drew its 25 members from the same set of organizations as the ridesharing task force, served as a resource for the project.

3.1.3 Funding

Table 3-1 summarizes the program funding by source, as planned during 1979. Funding was planned to total $576,000 over the two years, with the National Ridesharing Demonstration Program (NRDP) contributing $106,000 or 18% of the total.

Actual expenses for the project, outlined by element in Table 3-2, turned out to be slightly different from the

TABLE 3-1. PROGRAM FUNDING BY SOURCE

Federal Aid-Urban Systems Funds	$292,500
Local Match	97,500
NRDP Funds	106,000
Department of Energy Demo Funds	80,000
TOTAL	$576,000

Source: [4:45]

original projections shown in Table 3-1. The main differences were an additional $10,000 in NRDP funds spent to implement the extended data collection and $57,000 in other OKI COG funds that were expended prior to May 1980, when the demonstration budget was set up.* Because expenditures totaled only $575,278, including these two additional monies, somewhat less was spent from the other funding sources than anticipated. Additionally, because of startup delays, the project took almost three years to spend the $575,000 (through December 1982), although NRDP funds were exhausted by the end of June 1982.

To obtain the cost breakdown by project element, costs not definitely attributable to a single element (such as those for general marketing or pre-project administration) were allocated to the basic elements of the demonstration based on estimates by the program manager. Although the accounting is consequently approximate, it is the best available record of expenditures. The results in Table 3-2 show that employer-based ridesharing promotion, the major element of the demonstration, represented about half of the total costs. Regional ridesharing promotion cost approximately one-fourth of the total. Community ridesharing promotion cost about 11%, while vanpool services cost 8%. The workplace survey and internal project evaluation cost slightly less than 8%.

3.2 PROGRAM DESCRIPTION

The five project elements are described in detail in subsections 3.2.1 through 3.2.5 [4:29-39].

*Memorandum from Gregory J. Westerbeck, Program Manager of Project Rideshare, to author, 8 March 1982.

TABLE 3-2. PROJECT COSTS BY PROGRAM ELEMENT

Element	Cost	%
Employer-Based Ridesharing Promotion	$282,983	49.2
Community-Based Ridesharing Promotion	60,464	10.5
Regional Ridesharing Promotion*	139,860	24.3
Vanpool Services	45,854	8.0
Incentives	2,951	0.5
Evaluation and Data Collection	43,166	7.5
TOTAL	$575,278	100.0

*Includes $13,948 in contributed TV air time.

Source: Ridesharing Project Financial Status Report, 31 December 1982, and interviews with Project Manager.

3.2.1 Employer-Based Ridesharing Promotion

As the most important part of the ridesharing program, this element was planned to build upon existing programs at a number of large employers in the region. Ridesharing promotion oriented to employers was considered important because it had the advantages of reaching large groups with promotional efforts, working through existing communication and organizational channels, and increasing the number of matching opportunities.

To meet the varying needs of different employment locations, a comprehensive program was planned to offer assistance with employer-based carpools, vanpools, and subscription services. The main concept was to provide a depth of support that would result in a few successful employer programs rather than to make superficial contacts with many employers. The comprehensive ridesharing promotional package to be presented to employers consisted of initial contacts, presentations, promotional materials, matching services, information, incentives, benefits, and necessary follow-up. Appendix B includes a sample employer promotional package.

The Northern Kentucky Chamber of Commerce was also actively pursuing the development of ridesharing programs with employer members. A contractual arrangement with the Northern

Kentucky Chamber was planned to coordinate efforts between Project Rideshare and the Kentucky Chamber's RIDEPOOL program [4:30].

3.2.2 Community-Based Ridesharing Promotion

The community-based element planned to take advantage of the unusual levels of self-identification of neighborhoods and small communities in the Cincinnati area by selecting several local site coordinators in local communities to personalize ridesharing development at the home end of the work trip. This strategy built upon suggestions by Misch and Margolin [5] to use local site coordinators at either the home or work end of the commute trip to personalize matching services, serve special needs of applicants, and help them meet each other. While this strategy had worked well at the workplace, it had not been significantly tested at the community end.

Selection preference would be given to inner-city minority and low-income areas and to neighborhoods or communities with transportation problems or inadequate transportation services. Demonstration staff would provide time and resources as needed to help neighborhood and community leaders in identifying ridesharing potential and interest, organizing a comprehensive ridesharing program, and integrating ridesharing into the community as an ongoing service. Like the employer-based element, the planned community-based element was a comprehensive ridesharing program consisted of carpooling, vanpooling, and subscription services.

3.2.3 Regional Ridesharing Promotion

This element would provide promotion, matching services, and information to the general public. The new OKI COG matching services expanded upon previous manual and computer matching methods used by several employers and other groups. The new matching, consisting of the FHWA Commuter Information System (CIS), was available to any ridesharing group in the region with the intent of establishing a single region-wide data base for matching. Applications from the regional element and those from the employer-based element would be combined in this data base to maximize matching potential.

A major part of this element was devoted to increasing public awareness of ridesharing. Promotion would consist of activities such as demonstrations and displays, highway and parking lot signs, and media public service announcements. A regional information and matching number (513-241-RIDE) was also used. Special efforts were planned to personalize the contact, matching, and follow-up efforts as much as resources would permit.

3.2.4 Vanpool Services

The OKI COG planned to explore several possibilities for vanpooling, ranging from the more traditional sponsoring of owner-operated and third-party vanpools to the more innovative leasing of vans to taxi and paratransit operators for mixed commute and mid-day subscription service. Due to the lack of line item funding and a more limited market compared with the other vanpool options, the vanpool subscription service was not pursued. Instead, Project Rideshare planned to promote owner-operated and employer-sponsored vanpools where possible and to contract for a third-party vanpool operator. Major support services to be provided to third-party vanpooling included abort insurance,* assistance in vanpool formation, on-going administration, and clarification of legal issues.

3.2.5 Ridesharing Incentives

Project Rideshare planned to investigate public and private incentives for ridesharing, including reduced parking rates, preferential parking space allocation, provision of vehicles by employers, park-and-ride lots, work hour flexibility, and priority traffic control. The City of Cincinnati was simultaneously testing two preferential parking lots for carpools. Other departments of the OKI COG were also interested in pursuing most of these incentives, making a co-operative venture possible.

3.3 PROGRAM DEVELOPMENT

3.3.1 Initial Activities

The demonstration staff, consisting of a program manager, three ridesharing coordinators, and a secretary, began work in January and February 1980. Although there was to be some turnover in the positions of the secretary and one coordinator, the ridesharing project staff was fully functioning well before demonstration funding was received.

Funding arrived slowly in stages, delaying the initial project activities. Federal Aid-Urban System (FAUS) funds, passed through the Ohio Department of Transportation (ODOT), were the first to be received, in March 1980. EPA funds, passed through the Ohio Department of Energy, were also approved in March. However, NRDP funds were not received until

*Vanpool abort insurance reduces the financial risk to a third-party vanpool agent and vanpool drivers by covering the lease charges that the agent or driver would incur if a vanpool terminated before the end of the van lease.

August 1980.

Because each project element was required to be funded by a precise mix of funds, the late arrival of the NRDP funds delayed the full utilization of funds received earlier. In particular, completion of marketing materials was delayed six months, to August 1980. Consequently, full demonstration activities did not begin until September 1980.

3.3.2 Institutional Problems

The OKI or Cincinnati regional ridesharing demonstration was remarkably free of institutional problems because of three reasons:

1. The OKI COG used a regional task force to arrive at an early consensus on the function of the regional ridesharing program. This procedure, which preceded any ridesharing activities, was a natural extension of the OKI COG's role in the region and was accepted by the other actors as a reasonable way of organizing the program.

2. The initial activities of the ridesharing staff reflected the COG'S concern for regional harmony. For example, ridesharing staff and their organization met with transit and other transportation officials in January 1980, before implementation of the project began. As another example, care was taken not to usurp the ridesharing role of Northern Kentucky, an area that was sensitive about being considered just an extension of Cincinnati.

3. Ridesharing management staff were hired specifically for the implementation activities they were to perform as a new implementation-oriented department of the OKI COG. In this way persons were matched to the job they had to perform more readily than would have been possible if planners had been shifted from other departments of the OKI COG.

4. EVALUATION OF INDIVIDUAL PROJECT ELEMENTS

This chapter evaluates the individual project elements based on project records, minor surveys, and other secondary data sources. It discusses the purpose of each element, what was done, how it was accomplished, what happened, and how cost effective it was.

Employer-based ridesharing promotion, the major thrust of Project Rideshare, is discussed first. In turn follow discussions of the community-based ridesharing promotion, regional ridesharing promotion, vanpool services, and incentives. The chapter concludes with an evaluation of how well the project achieved its objectives. Although marketing affects all elements, it is discussed primarily under employer-based ridesharing promotion because most marketing efforts were concentrated on this element. (The effects of marketing on commuter travel behavior based on the workplace survey are discussed in Chapter 5.) The cost effectiveness of the project is also discussed primarily under employer-based ridesharing promotion because this element generated more than 80% of ridesharing applications to the project.

4.1 EMPLOYER-BASED RIDESHARING PROMOTION

Subsections 4.1.1 through 4.1.5 discuss the following five issues in turn: (1) approach and objectives, including employer outreach and marketing, (2) employer response to outreach, (3) matching results, (4) cost-effectiveness parameters, and (5) institutional and administrative issues.

4.1.1 Approach and Objectives

By the time that Project Rideshare was organized in 1980, employer-based ridesharing promotion had been proven at other sites to be an effective approach. In comparison with regional efforts, employer-based efforts had the advantage of utilizing both employers' influence and resources to persuade employees to rideshare. Consequently about half of the Project Rideshare budget was devoted to employer-based ridesharing.

The employer-based element consisted of outreach efforts supported by general promotion, matching services, and (at the end of the demonstration) third-party vanpool services.

Employers of 250 or more employees received direct marketing. Employers with 75 to 250 employees that were located in the vicinity of larger employers were contacted mainly by mail. Subsections 4.1.1.1 and 4.1.1.2 discuss the outreach to major employers and general promotion, respectively.

4.1.1.1 Major Employer Outreach. Following the identification of the major employers, an initial meeting was solicited with the top executive or manager on the site. Direct marketing to the chief executives with 250+ employees consisted of discussion and requests around the following points [6:6-7]:

1. Appointment of a company transportation coordinator to run the firm ridesharing program;

2. Distribution of information to employees consisting of newsletters, posters, brochures, letter of support, etc.;

3. Provision of preferential parking;

4. Provision of flexible working hours to support pooling;

5. Administration of rideshare survey to all employees;

6. Consideration of financial incentives to participating employees, e.g., cash drawing for all participants, recognition lunches or dinners, free coffee, initial or continuing fare or parking discounts; and

7. Facilitation of ongoing activities such as allowing Project Rideshare to contact employees at work to arrange pools, informing all new employees of the ridesharing program, and participating in marketing and evaluation by distributing flyers and posters.

A copy of the employer brochure (Appendix B) was left. This included an employee survey, which explained the benefits of ridesharing, and outlined steps in the employer ridesharing program. Where appropriate, employer-sponsored vanpooling was also discussed.

Initially, the marketing approach stressed benefits to the community, but after the first year, financial benefits to the employer and employee were emphasized. The support of other organizations was also sought, after a mid-demonstration review noted that only one-third of the firms were participating in a ridesharing program. For example, an "Uptown Task Force" of interested businesses and business organizations was formed to aid in marketing. This strategy supplemented a policy of contacting employers through organizations such as chambers of

commerce and distributing information to these organizations as part of an indirect marketing effort.

4.1.1.2 General Promotion. A number of promotional activities were carried out by Project Rideshare to support the employer-based program. The purpose of these events was to get free publicity and attract the attention of area executives and employees, thereby creating name recognition for Project Rideshare. Two main events were [7:3]:

1. Ridesharing Week in September 1980, which included a luncheon for business and civic leaders, a downtown van stuffing contest and celebrity race in red wagons, and a poster contest for students; and

2. Ridesharing Day in September 1981, which included more media events such as celebrity races, entertainment, and a contest to find the region's most unusual carpool (a Procter and Gamble carpool complete with hundreds of baby praying mantises).

4.1.2 Employer Outreach Participation

A mid-demonstration review of the employer-based element in June 1981 noted the following results:

143 firms had been offered assistance.

45 firms (32%) had agreed to endorse ridesharing, put up posters, pass rideshare applications through to employees, or perform in-house matching.

58,960 employees had been given rideshare applications and information.

7,060 employees (12%) had indicated an interest in ridesharing by filling out matching application.

The staff members were disappointed that only one third of the employers accepted the project's offer of assistance. The staff speculated that the reasons were short trip distances, conservatism of employers, other priorities (e.g., labor, reorganization due to workforce reduction), and relatively low driving costs. An insignificant percentage of companies already had programs and of these, only a few refused assistance. These firms are not included in Table 4-1. As noted in subsection 4.1.2.1, marketing strategies were changed to better pursue the employer-based market.

Table 4-1 summarizes employer participation at the end of the demonstration. Note that there are many more small employers than large ones in the region. Most of the firms contacted by Project Rideshare are in the two largest size categories, 500+ employees and 100-499 employees. Although there are many more employers in the two smaller groups, just under half (47%) of the region's employees work for firms in the larger two groups. Thus Project Rideshare's marketing strategy was an efficient way to contact employees in the region. Because the project was focused on the larger employers, contact was made with the smallest size (1-19) firms only when they were directly adjacent to larger employers. Separate records were not kept on these contacts, which would rarely consist of more than passing out information, so Table 4-1 underestimates the degree of contact with the 1-19 size firms.

TABLE 4-1. EMPLOYER OUTREACH BY FIRM SIZE

Firm Size	OKI Regional Profile # Firms	OKI Regional Profile # Employees	Firms Contacted[1] #	Firms Contacted[1] %[2]	Firms Implementing Program #	Firms Implementing Program %[3]
500+	135	97,000	123	91%	51	41%
100-499	630	138,000	157	25%	36	23%
20-99	3,300	147,000	64	2%	35	55%
1-19	22,300	123,000	0	0%	0	-
TOTALS	26,365	505,000	344	1%	122	35%

[1]Includes 8 to 10 firms requesting help to expand a program.
[2]Percentage of firms in region.
[3]Percentage of firms contacted.
Source: Project Rideshare records and workplace survey sample design.

Overall, 344 firms were contacted, and 122 or 35% implemented ridesharing programs. Although only 1% of the firms in the region were contacted, almost all of the firms in the 500+ category were contacted.* One-fourth of the firms in the 100-499 category were contacted. Among the 344 firms contacted were ten firms that already had some type of ridesharing program, e.g., a pin board for employee matching, but wished assistance in expanding their program. The firms then expanding their program are included among those implementing a program, but not all followed through on their original expansion plan. Firms that had a ridesharing program and did not wish assistance to expand are not included among those contacted in Table 4-1. In general, employers with a well established program, such as Procter and Gamble, were not contacted formally.

Results from the Greater Cincinnati surveys (Appendix C) of 1980 and 1982 provide a further measure of employer participation. These surveys consisted of random samples of about 1,100 adults (18 and over) in Hamilton County. The percentage of respondents whose employer or school furnished ridesharing information was about 31% in both 1980 and 1982. Although this proportion suggests that a substantial number of employees work for employers who are involved in ridesharing, it also implies that Project Rideshare has had no measurable effect on the proportion of employees who receive ridesharing information from their employers.

Note there is a discrepancy between the results of the Greater Cincinnati surveys and the project records summarized in Table 4-1. One might conclude that the ridesharing programs started by most employers as a consequence of Project Rideshare marketing did not have much effect on the amount of ridesharing assistance that employers were providing to employees. An alternative theory is that employees considered the ridesharing information distributed to them to be from Project Rideshare, not the employer. This theory is a possible explanation because the Greater Cincinnati surveys also noted a dramatic increase between 1980 and 1982 in public awareness of where to find ridesharing information (section 4.3.2). See subsection 5.2.2.1 for discussion of additional discrepancies between Table 4-1 and results of the workplace survey.

*This number is based on Project Rideshare records of 123 firms contacted plus 12 firms not contacted but identified in the survey sample. However, the workplace survey results are weighted based on 107 firms in the 500+ category, a number determined from earlier data available to TSC when the sampling design was constructed.

4.1.3 Employee Matching Results

Although the matching services of Project Rideshare were directed at both the employer-based ridesharing element and the regional ridesharing element, between 80 and 90% of the names in the matching file were the result of employer-based promotion. That is, these applications had been generated by employers responding to Project Rideshare promotion and assisting in surveys of their employees.

Over the period of the demonstration, the match list file was built up to the level of 6,000 to 7,000 names from the applications of about 15,000 individuals. In the fall of 1981, the file consisted of approximately 1,000 general public (or regional program) applicants and 5,700 employer-based applicants. Periodic "hard" purges, which required all applicants to reapply to stay in the file after one year, were carried out to keep the quality of the list high. (Hence, 15,000 applications over the period of the demonstration were distilled to a file of 6,000 to 7,000 persons who were interested in obtaining matching at any one point in time.)

Project Rideshare carried out two surveys of those who had applied for matching. With the planning and assistance of the University of Cincinnati, the first survey was mailed to all applicants in the file in October 1981, about 18 months into the demonstration. This mailing was prior to the first purge of the file.

The second survey used a refined version of the earlier questionnaire and was administered by telephone in November 1982 to a sample of 561 applicants: 437 employer-based applicants and 124 general public applicants. Because there were fewer general public applicants, they were sampled more heavily than their proportion in the file. The combined sample was drawn from 9,500 names then in the file. Approximately 6,500 individuals who had previously been purged from the file were not represented in this sample. Both the 1981 and 1982 questionnaires are included in Appendix C.

Table 4-2 presents results of the two surveys on the utilization of the match lists. Where the results are available, numbers are presented for the employer-based and regional program separately.

Table 4-2 indicates that there was a slight but statistically significant gain overall in the percentage of applicants receiving match lists: from 75% to 80%. However, the percentage of regional applicants receiving match lists rose dramatically in one year, as did the overall percentage satisfied with the matching service. The increase in the percentage of persons receiving a match list is the consequence of a larger matching file available later in the program.

TABLE 4-2. UTILIZATION OF MATCH LISTS

	Fall 1981			Fall 1982		
	Emp.*	Reg.*	Both	Emp.	Reg.	Both
Received match list	80%	58%	75%	82%	72%	80%
Satisfied with matching program	80	69	77	N/A	N/A	95
Of those receiving a match list:						
Rated 1 or more names as good	N/A	N/A	71	N/A	N/A	70
Rated all names on list as good	28	33	29	N/A	N/A	N/A
Used list	38	66	43	41	61	45
Called all names	13	42	17	N/A	N/A	N/A
Sample size (n)	1087	306	1393	437	124	561

*Emp. and Reg. refer to the source of the application through employer-based or regional ridesharing programs.

Source: (8:3-8) and (9:1-3)

Earlier, having fewer names in the file caused some matching requests to find no reasonable matches. As a result, those persons received no match lists. Similarly, the larger file led to more names on the average match list. Greater satisfaction is probably a consequence of the receipt of more and better quality match lists.

None of the measures of match list utilization for which comparative data were available changed in a statistically significant way over the one-year period. In both surveys, about 70% of those receiving a match list indicated that at least one name on the list looked like a possibly good match. Likewise, both surveys indicated that about 43% of those receiving a match list actually used it to call someone. With only fall 1981 data available, 29% rated all names on their match list as good, and only 17% called all of the names.

Note that because of the administration by mail, the 1981 results had the potential for being biased upward. (The more successful applicants might be more likely to report on their positive experience than would those who had a disappointing experience.) If this bias did occur, the improvement in the program, as measured by those receiving a match list or being satisfied with the matching program, would be even greater than indicated.

Table 4-3 summarizes the changes in commute mode by the match list applicants. Because the wording on the 1981 and 1982 questionnaires was slightly different when asking about mode shift, the results for the two years are presented sequentially in Table 4-3 instead of side by side. The three main differences in the questionnaires are:

1. The 1981 survey contrasts the respondent commute mode in fall 1981 with that the year before in fall 1980. The 1982 survey contrasts the commute mode in fall 1982 with that previous to applying for matching.

2. The 1981 survey defines ridesharing as carpooling, vanpooling, and using transit combined. The 1982 survey separates transit and defines ridesharing as carpooling and vanpooling. Additionally, tabulations of transit use in 1982 are not available.

3. The 1981 survey asked current ridesharers and transit users if they had been <u>influenced</u> by Project Rideshare activities to rideshare or use transit. The 1982 survey asked current ridesharers if they had been <u>influenced/assisted</u> by Project Rideshare activities to rideshare.

In both the 1981 and 1982 results, there is a significant drop in the percentage driving alone over the time period in

TABLE 4-3. MODE SHIFT OF MATCH LIST RECIPIENTS

FALL 1981 RESULTS (1,393 respondents)

Mode Split	Fall 1980	Fall 1981
Drive alone	57%	50%
Carpool, vanpool, or transit	30%	40%
TOTAL	87%	90%

Mode Shift by Assistance	% of Respondents
Currently carpooling, vanpooling, or using transit	48%
Definitely influenced	11%
Somewhat influenced	10%
TOTAL HELPED	21%
Helped to start ridesharing or using transit	11%
Helped to continue ridesharing or using transit	10%

FALL 1982 RESULTS (561 respondents)

Mode Split	Before Applying	Fall 1982
Drive alone	77%	56%
Carpool or vanpool	10%	34%
TOTAL	78%	90%

Mode Shift by Assistance	% of Respondents
Currently carpooling or vanpooling	34%
Definitely influenced/assisted	21%
Somewhat influenced/assisted	7%
TOTAL HELPED	28%
Helped to start ridesharing	22%
Helped to continue ridesharing	5%

Source: [8:9-10] and [9:1-8]

question. Corresponding to this decrease is an increase in carpooling. The differences are more dramatic in comparing fall 1982 with before applying for matching than they are in comparing fall 1981 with fall 1980. These differences imply a shift to carpooling among applicants and are confirmed by the breakdown by prior mode of those influenced or assisted by Project Rideshare to rideshare.

The lack of transit users in the 1982 survey results make the comparisons difficult between 1981 and 1982.* However, over 20% of the respondents in both surveys reported being influenced or assisted--influenced to rideshare or use transit in 1981 or influenced/assisted to rideshare in 1982. Given that there were about 15,000 applicants over the period of the demonstration, about 3,000 individuals would have been helped to start or continue ridesharing.

Although helping 3,000 persons is a significant achievement for Project Rideshare, it is hard to measure commuters' addition to or retention in ridesharing from the perspective of the region. An employment base of roughly 500,000 in the Cincinnati region reduces 3,000 to 0.6%--a figure that is very hard to measure and that is easily obscured by other commute mode trends.

For example, the Greater Cincinnati surveys (Appendix C) did indicate a statistically significant drop in ridesharing in Hamilton County from 17% in 1980 to 12% in 1982. But the workplace survey, which sampled over twice as many persons as the Greater Cincinnati surveys and drew them from the entire region, indicated that ridesharing in the region stayed about the same at slightly more than 19% (see Chapter 5) over that period.**

Note that there was less carpooling and more driving alone among the ridesharing applicants in 1982 than in 1981. However, because ridesharing applicants are a self-selected sample, it is difficult to do more than theorize that the two sets of applicants are different, non-comparable groups, let alone try to infer from the applicant mode split what is going on with the base level of ridesharing in the region.

---

*The only transit data reported for the 1982 survey indicated that 13% of the current transit users were influenced or helped by Project Rideshare to use transit.

**Hamilton County is the most metropolitan county of the OKI region, comprising 55% of the regional population. It is not known if the difference in ridesharing measured by the Greater Cincinnati surveys in Hamilton County and the workplace survey in the OKI region is because of the different populations being sampled or different survey methodology.

4.1.4 Cost-Effectiveness Estimates

Project Rideshare conducted a benefit/cost study of the project through February 1982, four months before the official end of the demonstration [8:13-26]. Using the 1981 survey to estimate the fraction of applicants influenced to start or continue ridesharing, Project Rideshare developed a number of informative summary statistics. These statistics implied that Project Rideshare had been quite efficient, in economic terms, as a consequence of influencing or helping some 3,000 commuters to start or continue ridesharing. However, because the results of the workplace survey (Chapter 5) indicate that Project Rideshare had little or no effect regionwide, questions were raised about the benefit/cost study. Was the methodology valid? Was too much credit taken for commuters who would have started ridesharing anyway? How could a project show a good result from the benefit/cost analysis and yet not have a measurable effect in the region? And what are the implications for funding a public ridesharing project like this? Given that there are no measurable regionwide results, is too much money being spent? Or, given that the economic efficiency of the project is so high, should more money be spent?

To answer the first two questions on the validity of methodology and to check the project staff results, an independent analysis based on the 1981 survey data was conducted by C&A. Table 4-4 summarizes the results of the C&A's analysis, which differed only slightly from the project staff analysis. Both analyses used two sets of assumptions, one a high estimate and one low. The project staff analysis then averaged the results. The resulting benefit/cost ratio for C&A's optimistic assumptions was within 2% of the project staff's ratio based on average assumptions. The ratio for C&A's conservative analysis was one-tenth the size of the more optimistic one.

The following subsections discuss the outcomes, benefits and costs, project efficiency measures, and conclusions of the analysis. The assumptions and data are identified as they are used in the analysis. To check the data that is used from project records and surveys, comparisons are made with the workplace survey data where possible. In-so-far as they can be answered from this limited analysis, the remainder of the above questions are addressed in the conclusion.

4.1.4.1 High Estimate Outcomes. Table 4-4, Row a (hereafter referred to as Table 4-4a) recapitulates the number of rideshare matching applications received by the project through February 1982. These 14,600 rideshare applicants become the basis for calculating the "direct" new ridesharers in Table 4-4b1 and all of the old ridesharers in Table 4-4c. In the high estimate, for those starting to rideshare, a distinction is made between direct and indirect ridesharing. "Direct" means those starting to rideshare who had received Project

TABLE 4-4. BENEFIT/COST ANALYSIS OF PROJECT RIDESHARE

			High Estimate	Low Estimate
OUTCOMES	a.	Matching applicants, 3/80-2/82[1]	14,600	
	b.	Persons starting to rideshare		
		1. Direct = 11% of a.[2]	1,606	
		2. Indirectly because of Project Rideshare publicity[3]	1,409	
		3. Total	3,015	
	c.	Persons continuing to rideshare (see text) = 10% of a.[2]	1,460	
	d.	Ridesharers credited to project		
		1. 50% of b3	1,507	
		2. 25% of c.	365	
		3. Total ridesharers credited	1,872	200
BENEFITS	e.	Benefits per carpooler assuming 2.25-year average life[4], 2.9 persons per carpool[2], 32-mile round trip[2], 85% of cars left at home not used[2] (15% used travel two-thirds of former mileage[2]), 4680 VMT saved per pooler/year (based on above assumpt. & data), 0.65 parking spaces saved/person[2], parking valued at $70/space-year[5], $0.15/VMT auto marginal cost[6], $0.32/VMT total auto cost[7] (saved by 10% of ridesharers[8]), accident costs of $0.0124/VMT[9]	$1,990	
COST	f.	1. Project Rideshare cost[1]	$447,672	
		2. Employer cost=.9(a+b2)($12)[10]	$172,900	
		3. Total cost	$620,572	
EFFICIENCY MEASURES	g.	Percentage of applicants placed[11]	11%	
	h.	VMT saved = 4680 x d3 x 2.25	19.7x10⁶	2.1x10⁶
	i.	Project cost/VMT saved = f3/h	$0.032	$0.29
	j.	Cost/pooler-yr = f3/(2.25 x d3)	$147	$1379
	k.	Project cost/applicant = f3/a	$43	
	l.	Cost/pooler influenced=f3/(b3+c)	$139	
	m.	Benefit/cost ratio = (d3 x e)/f3	6	0.6

[1]Project records. [2]1981 pooler survey. [3]Based on [10] & [11:E-7]. [4]From [11:D-4]. [5]Cincinnati 2000 Plan, by RTKL Associates, Inc. [6]From [12]. [7]Hertz Corp. [8][13:117]. [9][13:34] and [14:21]. [10]Workplace survey, weighted results. [11]Up to 21% by 10/82.

Rideshare matching and who said that Project Rideshare influenced them to some degree to rideshare. "Indirect" refers to those who were influenced to form a carpool because of Project Rideshare publicity but never applied for matching assistance and thus never showed up to be counted directly by the project.

The direct ridesharing is based on the 1981 project survey. Note that this figure is somewhat conservative because the percentage of applicants influenced or helped to start ridesharing had risen from 11% to 21% by the time of the 1982 survey (Table 4-3). Additionally, because the question was asked only of those currently ridesharing or using transit at the time of the survey, it does not count those who had used a match list to begin ridesharing but had quit before the survey was administered. According to a Los Angeles study [11:D-2], as many as 44% of those starting to rideshare over the course of the demonstration may have quit by that time. If this were true under Cincinnati conditions, the true percentage of applicants starting to rideshare or use transit would be about 20% instead of 11%.

The indirect pool formation is based on a detailed evaluation of four carpool projects by Fred Wagner [10], giving a rate of about 0.3% of the regional employment of 505,000. Commuter Computer has reported a similar figure in its evaluation of its carpool program in Los Angeles [11:E-7]. The total of 3,015 new ridesharers in Table 4-4b3 constitutes about 0.6% of the regional employment. This percentage compares well with the workplace survey's estimate that 0.75% or 4,254 of regional employees were helped by Project Rideshare information or assistance to start ridesharing.

Those crediting Project Rideshare in the 1981 survey with influencing them to continue ridesharing are shown in Table 4-4c. These 1,460 persons represent 0.29% of regional employment. Based on the workplace survey, an estimated 0.19% of area employees were helped by Project Rideshare information or assistance to find replacement or additional members for their pools. The fact that the 1982 project survey found that the percentage of matching applicants influenced/helped to continue ridesharing had dropped to 5% might explain why the 1981 project survey shows a higher result here.

To resolve any problem of over-counting the degree of influence that Project Rideshare might have had in causing these ridesharing arrangements, a reduced credit is taken for the new and continuing ridesharers identified so far in this analysis. Table 4-4d credits the project with 50% of the direct and indirect beginning ridesharers (Table 4-4b3) and 25% of the continuing ridesharers (Table 4-4c). This 50% credit of the beginning ridesharers is subjectively based on about half of the new ridesharers saying that they had been influenced to

start ridesharing by Project Rideshare and about half saying they had been somewhat influenced. Those saying that the project influenced them to continue ridesharing had a similar response ratio of definitely/somewhat influenced, but a lower credit of 25% is chosen for the continuing ridesharers because it is probably easier to continue ridesharing than to begin. An additional reason for a lower credit for continuing ridesharers comes from the workplace survey, which identifies a lower percentage of continuing ridesharers than does the 1981 project survey.

How does this total of 1,872 ridesharers credited to Project Rideshare (Table 4-4d3) compare with results from the workplace survey? One can derive from the weighted workplace survey results a roughly comparable number of ridesharers who regard the activities of Project Rideshare as one of their top three reasons for joining or forming a carpool. Based on the workplace survey and a correction for carpool dropouts, an estimated 1,700 persons regard information or assistance from Project Rideshare as one of their three most important reasons (but mostly the third most important reason) for joining or forming a carpool. The correction for carpool dropouts is necessary because the workplace survey asked only those carpooling at the time of the survey about the factors influencing them to join or form a carpool. Left out were those who began to carpool over the previous two years but had quit by the time of the survey. The correction for dropouts is based on the Los Angeles study cited and is applied to the estimated 876 "current" carpoolers ranking information or assistance from Project Rideshare as one of their top three reasons for joining or forming a carpool.

No similar question about influence was asked by the workplace survey of ridesharers who continued to rideshare with the help of Project Rideshare. However, the workplace survey estimated that about 1,000 of the region's employees

4.1.4.2 Low Estimate Outcomes. The 1982 Workplace Survey results were used for a low estimate of the number of persons who credit Project Rideshare with influencing them to start ridesharing. "Project Rideshare help" was selected as either the most or second most important reason for forming a carpool by 0.2% or about 200 of the survey respondents, as shown in Table 4-4. For the purposes of a lower bound estimate, the number of persons influenced to continue ridesharing was considered negligible. used information from Project Rideshare to find replacement pool members or to expand a carpool.

4.1.4.3 Benefits and Costs. The data and assumptions in Table 4-4e lead to a benefit of $1,990 per ridesharer credited to Project Rideshare. The components of this benefit total break down as follows:

Recoverable marginal auto cost savings	79%
Fixed auto cost (saved by an estimated 10% who sell a car or defer buying one)	9%
Accident cost savings	7%
Public parking maintenance cost savings	5%

The savings in vehicle miles traveled (VMT) are computed from the 1981 survey data except for the assumption of a 2.25-year average life for each ridesharer, which comes from the Los Angeles study [11:D-4]. Note that most of the benefits are user cost savings from driving less. Recoverable marginal cost savings, which include operating cost and the fraction of depreciation and insurance cost that can be recovered if an auto is driven less, make up almost 80% of the benefits. The savings in fixed cost are based on an estimate of 10% of ridesharers being able to sell or defer buying a car as a result of ridesharing. (About 20% to 25% typically are able to do so as a result of vanpooling; for example, see [15].) Accident costs are updated from a 1968 study and compare well with those currently experienced [16:23-24]. Parking cost savings are based on a Cincinnati study of public costs of providing parking and reflect just the maintenance cost savings. Based on a study of parking costs saved by ridesharing in the Seattle area, the parking cost savings are probably low by a factor of over three [17:2-8].

Project costs are based on project records. Employer costs were estimated by applying the $12 average cost per employee assisted (estimated from the workplace survey) to 90% of Project Rideshare applicants and indirect poolers. Up to 90% of the project's matching requests were generated through employer-based marketing where the employer might have incurred a cost.

There are other costs and benefits derived by individual ridesharers that do not appear in Table 4-4 because no good method exists at this time for quantifying them. The costs include the additional time spent traveling and the reduced travel flexibility because of carpooling rather than driving alone. On the benefit side, ridesharers often report that while the trip takes longer, carpool travel time is more pleasant because it is social time. They also report that it is more relaxing on the days when they are not driving. In addition, carpoolers sometimes report that they arrive at work less tired and tense and that, as a result, they are more productive.

4.1.4.4 Efficiency Measures. Compared with other ridesharing programs [18], 11% of applicants placed in carpools is a very

reasonable first-year result, especially since it is probably low because of not counting pools that did not last until survey time. After two years, this percentage had risen to over 20%, the average placement percentage of the ridesharing program reviewed in the previously cited study. The other efficiency measures show the project cost in a variety of ways, such as per VMT saved, per pooler-year, per applicant, and per pooler influenced. Data with which to compare these efficiency measures are not available from ridesharing projects of comparable age, but the cost per VMT figure for both the high and low estimates compares well with the cost of reducing VMT through other transportation system management (TSM) actions. For example, Fred Wagner estimates that comprehensive preferential treatments (ramp metering with carpool bypass, carpool preferential parking, etc.) would cost $0.16 per VMT saved and that exclusive high occupancy vehicle (HOV) lanes would cost $1.30 per VMT saved [19].

Table 4-4m calculates a benefit/cost ratio to summarize the economic efficiency of the project. Although a benefit/cost ratio of 6 would be high for many transportation investments, some carpool programs have achieved significantly higher ratios. For example, the Seattle ridesharing project achieved a benefit/cost ratio of over 20 [17:2-11].

4.1.4.5 Conclusions. From the high benefit/cost ratio of 6, one can conclude that it is not likely that too much money was spent on the project. A benefit/cost ratio of 2.0, which is close to the averge of the high and low estimates, would be strong justification for many types of water and highway projects. The lower bound estimate of 0.64 suggests that the project was not at all cost effective. Because Project Rideshare was still in its shakedown period during the first two years, the project is likely to improve its efficiency with time.

As to why more effect was not perceived regionwide, the magnitude of the results indicated by project records and surveys is consistent with that measured by the workplace survey. It is just that from the regional perspective, 3,000 commuters helped or influenced to rideshare are just a drop in the bucket. As to whether more money should be spent on programs of this type, more research is needed on the benefits and costs of increased personalization and any other ways of increasing ridesharing promotion. One can not answer that question based on just this analysis.

4.1.5 Institutional and Administrative Issues

The main institutional or administrative issues affecting the employer-based element were the legal climate in the Tri-State area, coordination with northern Kentucky, and the fluctuations in the local economy. Subsections 4.1.5.1 and 4.1.5.2 discuss the first two issues.

As for the effect of the economy, Project Rideshare found that outreach efforts to new employers were fairly ineffective during the period of October 1981 through about March or April of 1982. The worst layoffs of the recession seemed to occur then, leaving employers very preoccupied with related problems. Employer-based marketing was halted except for minimal efforts during this time to avoid alienating employers. When employer response improved in the spring, regular outreach was resumed.

4.1.5.1 Legal Issues in the Tri-State Area. The ridesharing legal environment in the OKI region at the beginning of the demonstration in 1980 and the response of Project Rideshare are summarized in the following points [20:2 & 21:2-11]:

1. Ohio. At best, the legal climate in Ohio was unclear. At worst, it was a barrier to implementing successful ridesharing programs. Two legal problems were vanpools' being considered contract carriers and the possibility that workmen's compensation laws applied to employer-sponsored ridesharing arrangements. To address these problems, project staff worked with representatives of the Ohio Association of Regional Councils (OARC, of which the OKI COG was a member) to identify laws inhibiting ridesharing and to introduce legislation changing the unfavorable laws. The project staff was also responsible for forming and chairing the OARC Ridesharing Subcommittee. This project leadership was significant in causing the change in legislation. The resulting legislation was passed early in 1982 and included provisions to:

    a. Define the ridesharing arrangement as a transportation mode;

    b. Exempt from extended liability employers who sponsor ridesharing programs;

    c. Exempt from chauffeur licensing requirements volunteer drivers in a ridesharing arrangement;

    d. Prohibit counties, townships, and municipalities from imposing any additional tax on ridesharing vehicles;

e. Prohibit the payment of workmen's compensation benefits to individuals injured while participating in ridesharing, as such activity is incidental to employment;

f. Remove regulations and motor carrier laws which impede the formation and expansion of carpooling, vanpooling, and buspooling as commuter modes; and

g. Remove statutory restrictions which contribute to the limited availability and increased cost of insurance.

2. Kentucky. Kentucky had been involved in ridesharing demonstrations for several years. As a consequence of that ridesharing activity, many legal barriers had been identified and removed. The only improvements suggested by Project Rideshare were to:

a. Expand the exemption of ridesharing arrangements from motor carrier laws to include third-party and employer-sponsored vanpools, instead of just owner-operated vehicles; and

b. Allow state-owned vehicles to be used for ridesharing.

3. Indiana. Indiana had been involved in ridesharing for several years, mostly on a statewide basis. During this period ridesharing went from being highly regulated to being less regulated. Project Rideshare identified a number of remaining barriers and made the following recommendations:

a. To exempt vanpooling from motor carrier laws, including the regulation of vanpools with respect to routes, fares, and insurance;

b. To exempt ridesharing specifically from workmen's compensation requirements;

c. To exempt ridesharing vehicles from the "bus" classification; and

d. To permit use of state vehicles for ridesharing.

No action had been taken in Kentucky and Indiana on these recommendations by the end of the demonstration.

4.1.5.2 Coordination with Northern Kentucky. At first, there were coordination problems with ridesharing marketing in northern Kentucky. A contractual arrangement with some

northern Kentucky party was thought necessary at the beginning of the demonstration to prevent a loss of identity of the northern Kentucky ridesharing efforts in the face of larger efforts in the more urbanized area of Cincinnati. The first arrangement between Project Rideshare and the Northern Kentucky Chamber of Commerce was hampered by a lack of concern for coordination with Project Rideshare on the part of the Chamber's marketing person. This arrangement ended in May 1981 when the marketing person resigned and Project Rideshare temporarily assumed responsibility for the northern Kentucky area.

The coordination problem was resolved when a new contract was signed with the Northern Kentucky Area Development District (NKADD), which assumed the marketing role for the area in January 1982. As part of the new contract, the director and assistant director of NKADD were to be trained by Project Rideshare to make presentations to employers and help organize employer ridesharing programs.

4.2 COMMUNITY-BASED RIDESHARING PROMOTION

4.2.1 Approach and Objectives

Project Rideshare planned to utilize a highly developed sense of community identity within the OKI region and the help of strong community leaders and their local governments to promote ridesharing on the home end.* Approaching home-end ridesharing in this fashion is similar to tapping the resources of employers on the work end.

Criteria for selecting sites for the community-based programs included the following characteristics or qualities:

1. An inner-city minority and low-income area;
2. A suburban community with transportation problems and no transit service;
3. A neighborhood or community with inadequate transportation facilities;
4. At least one Kentucky site to satisfy funding requirements;
5. The willingness to provide support personnel;

*This section summarizes reference 22.

6. Relatively small size and population (to make effective use of limited staff size and resources);

7. Relatively lower average age and income (to aid in persuading commuters to change travel modes);

8. Type and strength of the governing body (a high to medium range of administrative control from a governing body was thought essential for maximum use of community resources);

9. Number and frequency of news publications (to educate residents not reached by other sources); and

10. Geographic location and composition (to keep a regional perspective and provide service to communities of various topographies).

Sections 4.2.2 through 4.2.5 describe the communities selected, the marketing tactics utilized, and the results observed.

4.2.2 Elsmere, Kentucky

Elsmere is a small city in Kenton County, Kentucky, with a population of 6,400 living in a two-square-mile area. The community met both the low-income and the Kentucky site requirements. The city is comprised of residences, small businesses, and small light industries. The city indicated that it would provide personnel to assist in the community program. News publications include two daily and four weekly newspapers.

Promotion of the program consisted of five newspaper articles between 26 February and 4 June 1981, ridesharing posters displayed by local merchants, the strong cooperation and support of the mayor, a bulk mailing which included an application form and letter from the mayor to 2,406 households in April 1981, and a ridesharing poster contest in two schools. A local church volunteered its parking lot for a ridesharing park-and-ride lot between the hours of 7:30 AM and 6 PM.

Results were extremely poor, with only 0.7% or 17 persons applying for matching as a result of the direct mailing. No further efforts were attempted.

4.2.3 Fairfield, Ohio

The City of Fairfield, in Butler County, Ohio, is a primarily residential community of 35,000 persons spread over about 12 square miles. Fairfield was selected for its poor transit service and good labor force potential: half of its population is under age 35. It has one daily and four weekly newspapers.

Promotion began in the fall of 1981 with the aid of two volunteer pooling advocates chosen by the Fairfield City Council. The promotion strategy was an awareness campaign designed to make use of a large number of community and civic organizations. A letter to over 100 organizations resulted in only three requesting presentations and eight requesting applications to distribute to their members. Additional promotion included four newspaper articles and a booth at a September 1981 community festival.

The actual number of applicants is not known because the Fairfield program was not separated from the regional program results. The only measure of results was from an informal survey of shoppers in front of the Fairfield Kroger store in November. Thirty persons responded to the survey, 20 had heard of Project Rideshare, and 10 were currently ridesharing.

4.2.4 Mason, Ohio

The City of Mason in Warren County, Ohio, is a community of 8,610 persons located on nine square miles. Over half of the residents are 30 years of age or younger. It is composed of residences, small businesses, and small light industry. Mason has no transit service and offered personnel to help with the ridesharing program. Two daily, two weekly, and one quarterly newspapers serve the community.

The Mason ridesharing program featured a passive distribution system. Ridesharing applications and a letter from the mayor and city manager were sent out with quarterly income tax bills to 2,500 households in March 1981. Because the tax bills went only to community residents who worked outside the community, the mailing targeted the commuting population--about 90% of the labor force. This mailing was followed by a ridesharing booth at an annual civic festival in September 1981.

In addition to the direct mailing, the Mason program received considerable publicity and support from the community. Five newspaper articles were published on the program from 20 January to 4 March 1981. Local merchants displayed ridesharing posters and some furnished matching applications along with other community service information. The Welcome Wagon

distributed matching applications to new residents along with their usual brochures.

Responses from the tax bill mailing were extremely low in number. Only 1.3% or 22 of the households applied for matching. Project staff speculated that factors in the low return may have been the passive distribution system and the association with the tax bill, poor timing with a late winter start, or interested persons' applying through their employers instead.

4.2.5 Assessment of Community Programs

Project staff concluded that neither the passive mail application delivery system nor speaking through community organizations was an effective way to market ridesharing on the home end. The community-based programs were abandoned after a workshop was presented to help other communities organize ridesharing programs on their own. Only 9 of 200 organizations contacted attended the workshop. Only one responded to a follow-up questionnaire asking about program implementation. In that case, no program was implemented because of low interest: Only one person responded from a mailing of ridesharing applications to all 2,061 homes in the community as part of a civic association newsletter.

Compared with the cost-effectiveness results for the employer-based program, the community-based program was not cost effective: dividing two-thirds of the cost of the program by the applicants from two of the three programs, the results of the third being unknown, gives a cost per applicant over $1,000. That is about 30 times the cost per applicant of the employer-based program if employer costs are not included or 20 times the cost per applicant if possible employer costs are included in the employer-based program (Table 4-4f).

4.3 REGIONAL-BASED RIDESHARING PROMOTION

4.3.1 Approach and Objectives

The regional or general public ridesharing promotion element addressed regional commuters not reached by the employer-based promotion. Major components of the program were matching services and promotion to increase public awareness of ridesharing and how to obtain assistance.

Many of the general promotional activities described in section 4.1 also served to increase public awareness. Specific additional activities included [7:3]:

1. Use of the 241-RIDE information and assistance number;

2. Installation in late 1980 and early 1981 of freeway signs with the 241-RIDE number (6 in Kentucky and 14 in Ohio);

3. Placement of 20 ridesharing signs on the backs of Cincinnati buses in the summer and fall of 1981 ("If You Can't Ride the Bus, Carpool . . ."); and

4. Provision of a speaker's service and slide presentations to inform community, professional, and special interest groups of the program.

4.3.2 Effect of Information and Matching

A significant result of the promotional activities was discovered by the Greater Cincinnati surveys in Hamilton County (Appendix C). These survey results indicated that awareness of where to find ridesharing information went up from 12% of respondents in 1980 to 43% in 1982, a dramatic increase. Given that the percentage of respondents who received ridesharing information from their employer stayed constant at 31% over this period, much of this increase could probably be attributed to the demonstration program.

To give some idea of how ridesharing information was effectively reaching the public, Table 4-5 categorizes general public ridesharing applicants by how each had heard of Project Rideshare. (Multiple responses were not permitted.) The 1,514 applications were received between February 1980 and October 1981. About 50% of the applicants had heard of the program from freeway signs. The rest had heard from numerous other sources of information. From March 1980 to September 1981, the total number of general public applications per month rose from below 40 to consistently over 100.

The level of utilization of the general public match lists was described by Table 4-2 in section 4.1. The general public was less satisfied with the matching service than were the employees matched through the employer-based programs. This difference was probably due to more general public applicants receiving match lists with no names on them than did employer-based applicants. As the size of the matching file increased, the percentage of the general public applicants receiving match lists increased, causing the level of satisfaction to increase.

Table 4-2 also indicates that the general public applicants were much more likely to use a match list and to call all of the names on it. Apparently those who went to the trouble of calling for assistance on their own were much more motivated to use the information that they received, even if

TABLE 4-5. SOURCE OF GENERAL PUBLIC APPLICATIONS

Month									
March, 1980	- - - - - - - - - No Record - - - - - - - - -							38	38
April, 1980	- - - - - - - - - No Record - - - - - - - - -							33	33
May, 1980	1	1	0	0	1	N/A	N/A	6	9
June, 1980	4	0	1	0	0	N/A	N/A	16	21
July, 1980	- - - - - - - - - No Record - - - - - - - - - - - - - - -								
August, 1980	18	9	5	0	3	1	N/A	17	53
September, 1980	18	10	2	0	8	29	N/A	11	78
October, 1980	13	13	5	2	6	19	N/A	22	80
November, 1980	9	10	8	0	9	11	N/A	16	63
December, 1980	3	13	8	0	4	12	N/A	4	44
January, 1981	7	25	22	4	12	21	N/A	31	122
February, 1981	12	23	2	4	9	14	N/A	11	75
March, 1981	2	9	3	2	8	70	7	13	114
April, 1981	10	3	2	0	6	119	7	10	157
May, 1981	2	1	1	0	4	103	5	18	134
June, 1981	0	2	1	0	4	106	8	41	162
July, 1981	4	0	0	0	1	83	4	16	108
August, 1981	0	0	0	0	4	89	3	9	105
September, 1981	1	3	2	0	2	71	1	38	118
TOTAL	104	122	62	12	81	748	35	350	1514
%	6%	8%	4%	1%	5%	49%	2%	23%	100%

Source: Project Rideshare Records; multiple responses not possible.

their level of satisfaction was less because there were not as many names or even match lists compared with the employer-based applicants.

4.4 VANPOOL SERVICES

4.4.1 Approach and Objectives

To supplement the employer-based vanpool services, Project Rideshare planned to pursue both vanpool subscription services and more conventional forms of vanpooling. The vanpool subscription service never was begun because of two factors:

1. There was no identified market for the service; and

2. There was no funding for running such a service. The subscription service had been intended to pay for itself, and no line item had been created in the budget. Early in the demonstration, project staff decided that such a service would need far more financial support than was available.

The vanpool program focused on the area that had the largest market, third-party vanpools, to fill the gap left by employer-based vanpools. The primary thrust of the Project Rideshare program was to contract with a van leasing agency and then to guarantee the leases to vanpool drivers. Van America, Inc., a for-profit van leasing agent, was chosen as the van agent in late 1980. Because of institutional problems that delayed funding, the third-party vanpool program was unable to begin until late March 1982, and no vanpools had been formed before the National Ridesharing Demonstration Program funds were expended in June 1982. However, because the third-party vanpool concept looked promising, Project Rideshare included it in the ongoing activities.

4.4.2 Institutional Issues

Although there were also other minor delays, the main delay in the third-party vanpool program centered around the Ohio Department of Transportation's (ODOT) interpretation of the liability involved in vanpooling and ODOT's ruling on ridesharing implementation. Essentially, ODOT balked at Project Rideshare's plan to implement a third-party vanpool program for two reasons:

1. It believed that the liability in vanpooling was too great for a public agency without taxing powers to assume, even with the insurance of $2 million per van and $10 million general liability.

2. It ruled that planning organizations like the OKI COG that housed Project Rideshare could not perform implementation activities. Although running a carpool program was not considered implementation, running a vanpool program was judged to constitute implementation.

The end result was that Project Rideshare had to persuade Hamilton County in Ohio to act as the implementing agency. The idea was that if the program was a success in Ohio, it could later be tried in other areas. Negotiations between Project Rideshare and ODOT and then Project Rideshare and Hamilton County took over a year before a signed contract was obtained. Added to the earlier funding delays, there was too little time left to actually get vans on the road before demonstration funds ran out. Because Project Rideshare later formed vanpools as a regular part of its program, the demonstration could be given some credit for forming vanpools in-as-much as all of the ground work necessary for a vanpool program was performed during the demonstration.

4.5 RIDESHARING INCENTIVES

4.5.1 Approach and Objectives

Designed as the smallest element of the ridesharing program, with a budget of about $17,000 or 3% of total funds, the ridesharing incentive element planned to identify and implement the incentives that appeared to be most effective for each principal project area. Emphasis was to be upon incentive programs already underway, those readily achievable, and those most effective for the client groups involved [4:51].

In practice these objectives came to mean encouraging employers to provide ridesharing incentives to employees and joining the City of Cincinnati in its Ride Pool lot program. The organization of the employer-based activity was covered in section 4.1, and results based on the workplace survey are described in Chapter 5. The rest of this section is concerned with the Ride Pool lot program.

4.5.2 Ride Pool Lot Program

As part of the experimental ridesharing program described in Chapter 3, the City of Cincinnati began operating two Ride Pool lots in downtown Cincinnati in early 1979. The more conveniently located lot charged $1 per day, and the less conveniently located lot was free. Daily parking rates were normally $2 and $1.50 for the two lots, respectively. Carpools of three or more qualified for the reduced rates if they arrived before 9:30 AM.

The location of these two lots is shown in Figure 4-1. The most conveniently located lot is in the middle of downtown. The other lot is several blocks away next to the stadium and the river.

To help the OKI COG obtain the ridesharing demonstration grant in 1979, the City had agreed to contract with the OKI COG to provide a portion of the required local match. This contract also required the OKI COG to administer and evaluate the Ride Pool parking lots through the end of August 1980 as preparation for deciding whether to assume financial responsibility for the lots. The City had been providing a subsidy of approximately $500 per month.

To evaluate the Ride Pool lots, Project Rideshare conducted two surveys of the lots and analyzed them together with the monthly total use counts supplied by the lot attendants. The purpose of the evaluation was to determine the usage rates, the characteristics of the users, and the effectiveness of this ridesharing incentive [23:1-2]. Subsections 4.5.2.1 and 4.5.2.2 discuss the analysis results and the staff recommendations, respectively.

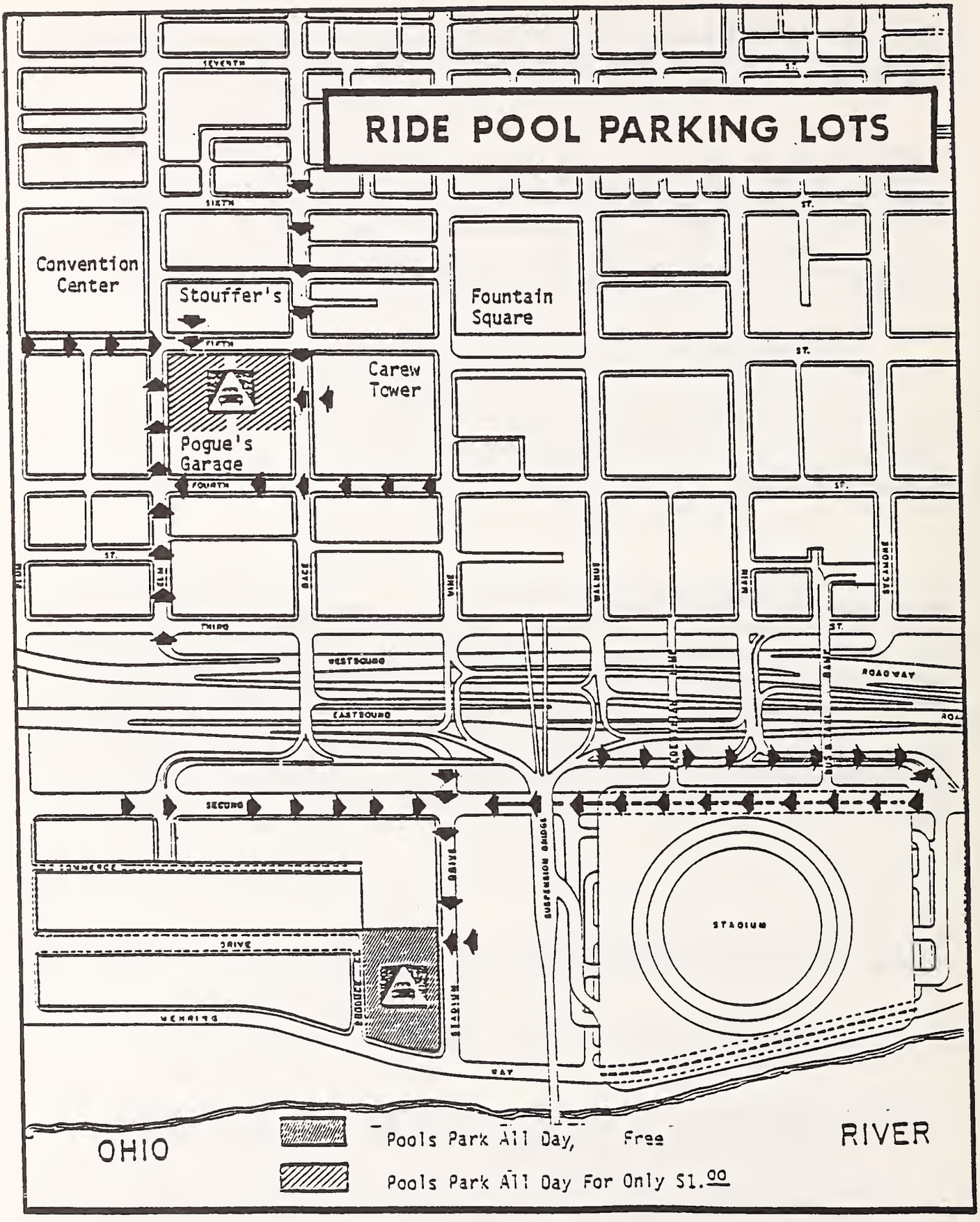
4.5.2.1 Ride Pool Survey Results. The results of the survey analysis are summarized in Table 4-6. The results indicate that few commuters were being attracted from driving alone by the lots: 21% (35 persons) of the downtown lot users and 8% (6 persons) of the riverfront lot users drove alone previous to taking advantage of the carpool reduced rate. Most commuters either carpooled or rode the bus previously. The reasons cited for carpooling were economics and convenience. Project Rideshare staff concluded that the better location of the downtown lot outweighed the lower price of the riverfront lot and resulted in twice as much use at the downtown lot [23:3,8].

4.5.2.2 Staff Recommendations. On the basis on these results, Project Rideshare staff recommended [23:4-5]:

1. Eliminating the riverfront lot because of the high subsidy (about $300 per month) for only six new carpools using the lot;

2. Expanding the Ride Pool program to other carefully selected sites downtown in a joint program with the City of Cincinnati; and

3. Raising parking fees for other vehicles to allow reduced rates for carpools without an outside subsidy.



Source: Reference 23, p.11

FIGURE 4-1. RIDE POOL PARKING LOTS

TABLE 4-6. RIDE POOL SURVEY RESULTS

	Downtown	Riverfront
Carpools per day*	60	28
Carpoolers surveyed (n)**	165	78
Average Carpool Size	3.7	3.4
Commute Mode Prior to Using Lot		
Drive Alone	21%	8%
Carpool	46%	63%
Bus	29%	25%
Other	4%	4%
TOTAL	100%	100%

*Average daily usage for May to July 1980.
**Based on a survey of 81 carpools on 21 May 1980 and 29 July 1980.
Source: [23:2-3]

The City declined to participate in an expanded Ride Pool lot program because of administrative difficulty. Within the next year the downtown lot was replaced by new construction, but a new lot was created three blocks away.

4.5.3 Administrative and Institutional Problems

The main reason the City of Cincinnati cited for not participating in an expanded Ride Pool program was the administrative difficulty of charging daily parkers a variable rate depending on whether the the vehicle was a three-person carpool. The basic problem was that the carpoolers wanted a system that would let a carpool drop off its passengers before entering the lot. The City did not want to get involved in the registration of carpools that such a system would require. Instead it preferred to base the rate on the number of passengers in the car as it came into the lot. Because Project Rideshare could not use federal demonstration funds to subsidize parking rates and because the City operated the parking lots, the Ride Pool program was not pursued further.

4.6 ATTAINMENT OF OBJECTIVES

Based on the results presented in this chapter, Table 4-7 compares the objectives of the demonstration (from subsection 1.2.2) with the results achieved by the demonstration. One can see from the table that with the high estimate, Project Rideshare easily met its commuter cost saving objective and came close to the line-haul trip reduction objective--unless the more liberal accounting is followed, in which case the line-haul trip objective was also met. There were negligible areawide impacts on auto occupancy and VMT savings. With the low estimate, Project Rideshare did not come close to meeting any of the objectives.

TABLE 4-7. ATTAINMENT OF OBJECTIVES

Objective	Result
Increase average auto occupancy from 1.2 to 1.5 for areawide work trips.	Negligible, given that ridesharing remained, at best, constant over the demonstration.
Reduce VMT by 1.5% for areawide work trips.	VMT reduced about 0.2% for the high estimate, based on an areawide work-trip VMT of two billion per year [3:23-24] and project VMT savings from Table 4-4h of 19,700,000 over 4.25 years.* VMT reduced by 0.02% for the low estimate.
Provide access to job opportunities for 150 persons from minority and low-income groups.	Objective abandoned because its relevant demonstration element (vanpool subscription service) was not implemented.
Reduce areawide line-haul work trips by 4,200 trips daily by 1982.	According to Table 4-4, work trips are reduced by only 3,200 trips daily for the high estimate and by 340 trips daily for the low estimate.
Reduce total personal vehicle operating cost expenditures by more than $2.88 million or five times the two-year cost of the area ridesharing program.	For the high estimate, expenditures reduced by $3.73 million or six times the two-year cost of the project, based on Tables 4-4d3 and 4-4e. For the low estimate, expenditures reduced by $398,000 or 64% of the project costs.

*The 19.7 million VMT saved by project ridesharers was based on an average life of 2.25 years per ridesharer. Hence the period over which this VMT savings accrued would be 2.25 years past the two-year demonstration period or 4.25 years.

5. PROJECT RIDESHARE AND EMPLOYER INFLUENCES ON LOCAL COMMUTE BEHAVIOR

5.1 OVERVIEW

Cincinnati was one of five NRDP sites selected for extensive data collection to supplement the case study evaluations. The following section describes the evaluation approach and the main evaluation issues.

5.1.1 Evaluation Approach

The NRDP evaluations center on new and expanded employer outreach efforts and employee travel behavior as influenced by employer outreach and other factors. There are three main evaluation issues:

1. What factors influence employers' participation in ridesharing programs?

2. What factors influence employees' participation in ridesharing?

3. What are the individual and aggregate benefits and costs associated with the demonstration project and with publicly funded ridesharing promotion programs in general?

The case study results presented in this report are based on the findings of the Cincinnati demonstration. Chapter 4 addressed issue #3 from the perspective of project records, other secondary sources of data, and limited use of workplace survey results. This chapter covers issues #1 and #2 based on a preliminary analysis of the workplace survey data. TSC will pursue all three issues in more depth from a cross-cutting analysis of workplace survey data from five sites.

5.1.2 Evaluation Issues

The limited list of questions to be answered by this case study based on the workplace survey data expands issues #1 and #2 in section 5.1.1. The questions include the degree and length of employer participation in employee ridesharing programs, employer attitudes about such participation, and the

characteristics of participating and nonparticipating employers. Employees are similarly characterized by their degree of ridesharing as a function of employer participation, changes in commute mode, reasons for mode choice, and characteristics of ridesharers and non-ridesharers.

5.1.2.1 Employer Participation in Ridesharing. The employer questions for the workplace survey data, addressed in section 5.2, are as follows:

1. What proportion of OKI employers assist in employee ridesharing?
    a. What proportion are familiar or in contact with Project Rideshare?
    b. What kinds of ridesharing assistance programs are being offered?
    c. How long have these programs been in effect?
    d. What levels of assistance are provided?
2. How do assisting firms compare with non-assisting firms with respect to number of employees, type of industry, and work schedule?
3. Why do employers support employee ridesharing programs?
    a. What are seen as the chief advantages or benefits of encouraging ridesharing?
    b. What are seen as the chief disadvantages or costs of encouraging ridesharing?

5.1.2.2 Employee Ridesharing. The employee questions for the workplace survey data, discussed in section 5.3, are as follows:

1. What proportion of the OKI employees rideshare?
    a. What proportion are familiar with Project Rideshare's marketing efforts?
    b. What proportion work for employers who offer employee ridesharing assistance?
2. How has the employee commute mode distribution changed from before to after the demonstration?

3. Why do employees rideshare?

   a. What reasons are given for ridesharing?

   b. How were existing ridesharing arrangements formed?

   c. Which incentives were used by ridesharers?

4. How do the personal and work-trip characteristics of ridesharers differ from those of solo drivers and other non-ridesharers?

5.2 EMPLOYER RIDESHARING PROMOTION

This section addresses the questions of subsection 5.1.2.1 on employer ridesharing activities. It is divided into subsections that more or less parallel these questions. As will be the case for both employer and employee tabulations, the results presented are scaled up to an estimated number of employers or employees in the OKI region, based on weighting the raw survey results inversely to the stratified sampling scheme. Raw sample sizes are presented in the same tables to help the reader judge the statistical reliability of the proportions. Appendix A contains a brief elaboration of the sampling and weighting scheme.

5.2.1 Employer Exposure to Project Rideshare

5.2.1.1 Total Contact or Familiarity in Region. Table 5-1 tabulates the estimated exposure of firms in the OKI region to Project Rideshare based on the weighted responses to four questions on the employer profile. An estimated 22% (5,728) of all employers in the OKI region are familiar with the activities of Project Rideshare. An estimated 4.7% (1,264) have been in contact with Project Rideshare. Almost all of those in contact have been contacted by Project Rideshare rather than initiating the contact themselves (Table 5-1b). However, as will be discussed in subsection 5.2.1.3, almost all of the estimated number of firms familiar with, contacted by, or receiving assistance are from the smallest size category of 1 to 19 employees. This category comprises nearly 85% of all firms in the region.

Table 5-1c is the result of condensing the weighted multiple responses regarding six categories of assistance into three mutually exclusive categories. In the condensation of responses, priority was given to those representing greater degrees of assistance to avoid hiding important information. In Table 5-1c, an estimated 95% (1,194) of all assisted employers received information from Project Rideshare only,

TABLE 5-1. EMPLOYER EXPOSURE TO PROJECT RIDESHARE

	Estimated Number of All Firms	Estimated % of All Firms	Sample Sizes
a. ARE YOU FAMILIAR WITH THE ACTIVITIES OF PROJECT RIDESHARE			
Yes	5,728	22.0%	57
No	20,841	78.0	119
TOTAL	26,569	100.0%	176
b. HAVE YOU EVER CONTACTED OR BEEN CONTACTED BY PROJECT RIDESHARE			
Yes--We contacted Project Rideshare	38	0.1%	6
Yes--Project Rideshare contacted us	1,205	4.5	22
Yes--unspecified	21	0.1	4
No	25,322	95.3	146
TOTAL	26,586	100.0%	178
c. WHAT HAVE YOU RECEIVED FROM PROJECT RIDESHARE BY WAY OF ASSISTANCE			
Information only (brochures, briefing)	1,194	94.7%	17
Matching assistance (in-house or matchlists from Project Rideshare)	44	3.5	9
Assistance in obtaining vans or forming/operating vanpools	23	1.8	5
TOTAL	1,262	100.0%	31
d. WERE YOU GENERALLY SATISFIED WITH PROJECT RIDESHARE'S SERVICE			
Yes	1,241	99.7%	27
No	4	0.3	2
TOTAL	1,245	100.0%	30

Source: 1982 Workplace Survey, weighted results.

either brochures or a briefing on carpools or vanpools. An estimated 3.5% (44) of all assisted employers received matching assistance, either in the form of match lists from Project Rideshare or help on an in-house matching effort, but not vanpool assistance. It is estimated that had all employers been surveyed, about 2% (23) of those assisted would have noted receiving assistance only in obtaining vanpool vans or forming vanpools.

Finally, Table 5-1d implies that virtually all of the contacted firms were satisfied with Project Rideshare's service to them; only an estimated 4 firms or 0.3% of those contacted replied no.

5.2.1.2 Comparison with Marketing Records. To check the workplace survey against project records, the results listed in parts b and c of Table 5-1 were compared with Project Rideshare's records of the marketing contact with the surveyed firms. Table 5-2 summarizes the marketing contact based on Project Rideshare's records for the particular firms sampled in the survey and then weighted to estimate the total number contacted in the region.

TABLE 5-2. MARKETING CONTACT WITH SURVEYED FIRMS

Degree of Contact	# of Firms	%	Sample Size
Firm started program	304	1.2%	28
Meeting conducted but no information passed to employees	34	0.1%	11
Mail contact only	611	2.3%	16
No contact	25,635	96.4%	134
TOTAL	26,584	100.0%	189

Source: 1982 Workplace Survey, weighted results.

Note that from Table 5-1b, an estimated 4.7% (1,264) of firms in the OKI region had contact with the project, based on their own recollection. Based on Project Rideshare's records and the weighting procedures, Table 5-2 shows that an estimated 3.6% (949) of the firms in the region had contact with Project Rideshare.

However, comparing the actual recorded total of 344 employers contacted by Project Rideshare employer outreach in the region (from project records summarized in Table 4-1) with these numbers leads to the conclusion that, barring the possibility that the weighting procedures overstate the number of firms contacted,* many more employers remember having contact with Project Rideshare than were recorded. Examination of cross-tabulations of the employers' assessment of contact with Project Rideshare compared to Project Rideshare records of contact suggests that, though the effect may be magnified by the weighting procedures, more firms do actually remember being in contact with the demonstration project than is indicated by project records. This is a reasonable possibility for smaller firms because separate files were not necessarily kept for the smaller firms. For instance, Table 4-1 notes no contact with the 1-to-19 size firms. Yet when reviewing a list of the firms sampled, project staff remembered being in contact with at least two of these smallest firms.

In general, the project records and the workplace survey results do not match very well on the subject of project oontact. However, most of the disagreement revolves around the smallest firms and these firms were not included in Project Rideshare records. The discrepancy is magnified by the fact that the smallest firms are weighted very heavily.

5.2.1.3 Contact or Familiarity by Firm Size. Table 5-3 demonstrates that the largest of the firms were the most familiar with the activities of Project Rideshare. In the largest size category, 500+ employees, an estimated 63% (60) of the firms would have responded "yes" to the question on familiarity had all firms in the region been surveyed. This result is consistent with Project Rideshare's efforts to contact all of these larger firms. The three smaller firm size categories had an estimated familiarity with Project Rideshare of 11% (±10%) to 30% (±13%). However, the differences in familiarity among the three smaller size categories of firms are not statistically significant. The estimated difference between the 500+ firm category and the smaller size categories is statistically significant.

Table 5-3b breaks down the estimated number of firms in contact with Project Rideshare by firm size. The trend with respect to firm size is the same as for familiarity with Project Rideshare, although the percentages are smaller. About 4.7% of the regional firms are estimated to have been in contact with Project Rideshare, compared with 22% who are familiar with the activities of Project Rideshare. About 47%

*That is, large weights are applied to small firms so that the sampling error is magnified.

TABLE 5-3. ESTIMATED EMPLOYER FAMILIARITY AND CONTACT WITH PROJECT RIDESHARE BY FIRM SIZE

	Firm Size (Number of Employees)								Total All Firms	
	Less than 20		20-99		100-499		500 or More			
	#	%	#	%	#	%	#	%	#	%
a. FAMILIAR WITH PROJECT RIDESHARE'S ACTIVITIES										
Yes	5,095	23.0%	380	11.0%	193	30.0%	60	63.0%	5,728	22.0%
No	17,321	77.0	3,037	89.0	447	70.0	35	37.0	20,841	78.0
TOTAL	22,416	100.0%	3,417	100.0%	640	100.0%	95	100.0%	26,569	100.0%
b. EVER IN CONTACT WITH PROGRAM										
Yes--we contacted Project Rideshare	0	0%	0	0%	30	4.5%	8	8.5%	38	0.1%
Yes--Project Rideshare contacted us	1,019	4.5	95	2.8	60	9.1	31	31.9	1,205	4.5
Yes--unspecified	0	0	0	0	15	2.3	6	6.4	21	0.1
No	21,397	95.5	3,322	97.2	551	84.1	52	53.2	25,322	95.3
TOTAL	22,416	100.0%	3,417	100.0%	655	100.0%	98	100.0%	26,586	100.0%
(Sample Size)	(46)		(39)		(44)		(47)		(176)	
c. EMPLOYER CONTACT AND SPONSORSHIP OF RIDESHARE PROMOTIONS										
In contact with Project Rideshare and offering employee rideshare assistance	0	0%	0	0%	45	8.0%	31	32.0%	76	0.3%
Not in contact, but offering assistance	509	2.4	95	2.9	119	21	17	17	740	2.9
In contact, but not offering assistance	509	2.4	95	2.9	60	10	15	15	679	2.7
Neither in contact nor offering assistance	20,378	95.2	3,037	94.2	342	61	35	36	23,793	94.1
TOTAL	21,397	100.0%	3,227	100.0%	566	100.0%	98	100.0%	25,288	100.0%
(Sample Size)*	(44)		(37)		(38)		(47)		(166)	

*There were 10 firms not furnishing contact/assistance data, giving rise to smaller "sample size" for Table 5-3c than Table 5-3b.

Source: 1982 Workplace Survey, weighted results.

of the 500+ firms, 16% of the 100-to-499 firms, 3% of the 20-to-99 category, and 4% of the smallest firms had been in contact with the demonstration project.

5.2.2 Employer Ridesharing Assistance

5.2.2.1 Assistance by Firm Size and Contact. Table 5-3c breaks down by firm size and contact with Project Rideshare the estimated proportion of employers in the OKI region who furnish ridesharing assistance to their employees. Employers furnishing ridesharing assistance as defined here are limited to those checking one or more of the following items on question 21 of the employer profile (Appendix A):

1. Assist employees in forming or joining carpools/vanpools;

2. Provide special incentives to employees who carpool; or

3. Provide vans which are used by employee vanpool groups.

Those checking only other items under that question, including provision of information on commuting options, providing bus service or bus passes for employees, or furnishing company cars for commuting, are not classified as furnishing ridesharing assistance.

Weighted data summarized in Table 5-3c imply that only an estimated 3.2% (816) of all employers in the region furnish ridesharing assistance, as defined above, to their employees. Although a higher percentage of employers in contact with Project Rideshare is estimated to provide assistance compared with firms not in contact, this difference (10% compared with 3%) is not statistically significant. Also, it is not clear whether contact with Project Rideshare is causing assistance, whether assistance leads to contact (in the case of firms contacting Project Rideshare), or whether some other factors such as size and location determined the degree of both contact and assistance. In any case, almost all (97%) of the firms said they had never been in contact with Project Rideshare. Missing values in the breakdown by contact/assistance information cause this result not to compare exactly with Table 5-1b, where 4.7% of the firms are indicated to be in contact with Project Rideshare.

Within the firm size categories on which Project Rideshare marketing was focused, 500+ employees and 100 to 499 employees, the percentage of those assisting went up. For these two categories combined, 47% of the firms in contact with Project Rideshare offered ridesharing assistance, and 27% of those not in contact offered assistance. For the 500+ category, where

almost half were in contact with Project Rideshare, these figures were higher: 67% of firms in contact offered assistance compared with 33% of those not in contact. However, only the last comparison is statistically significant at the 95% level, based on the sample sizes of (29, 56) and (22, 25) for the two (contact, no contact) groups in the 100+ and 500+ categories, respectively.

Thus, only among the 500+ employers is there a significant difference in the provision of ridesharing assistance with contact with Project Rideshare. Additionally, it is not clear, based on duration of assistance, whether the demonstration project was influential in encouraging employers to provide assistance to employees. The percentages of firms providing ridesharing assistance that indicated they began the assistance in late 1980 or afterwards, when the demonstration could have possibly affected them, are shown in Table 5-4.

TABLE 5-4. STARTING TIME OF RIDESHARING ASSISTANCE BY TYPE

Ridesharing Assistance Type	% of Employers Providing Assistance That Began After 5/80	Sample Size
Assist Carpool/ Vanpool Formation	16%	25
Provide HOV Incentives	77%	7
Provide Vanpool Vans	100%	5

Source: 1982 Workplace Survey, weighted results.

For carpool/vanpool formation assistance, the most frequent form of assistance (see 5.2.2.2), only a small proportion of employers began assistance after the beginning of the demonstration. Because of this estimate and the small sample sizes for the other two types of assistance, no case can be made for a strong effect by Project Rideshare on the provision of ridesharing assistance.

There is a discrepancy between Table 5-4 and Table 4-1. Table 4-1 shows that 35% of the firms contacted by Project Rideshare began ridesharing programs (based on project records), while Table 5-4 shows only 16%. However, it is believed that one reason for the difference is probably the very low level of effort of many employer programs. For

example, of the fraction of assisting employers who bothered to answer the question on what type of assistance was being provided, an estimated 50% indicated that their program consisted only of official endorsement of ridesharing. In Project Rideshare's eyes, that would not have amounted to a ridesharing program.

Another factor in the discrepancy is the high variability associated with a sample size of 25 employers. Of the estimated 84% of employers providing assistance before the start of the demonstration, about half of the weighted responses are based on just one company.

One feature of the weighting procedures deserves comment here. The effect of the two smaller classes of firms, which were sampled much less heavily than the larger groups, is startling. The effect of just one firm on the estimated fraction of employers beginning ridesharing assistance before the demonstration is just one example. Another example is the great impact the characteristics of just a few firms have on the results in Table 5-3. Based on the sample sizes listed at the bottom of Table 5-3, most of the totals for the no contact/assistance and contact/no assistance groups are based on the responses of just four firms in the smallest two size categories.* Therefore, tabulations of the weighted responses of all firms should be interpreted with caution lest the high variability associated with the scaling up of so few responses obscure important trends--here the high proportion of the larger firms that are in contact with the demonstration project and furnish ridesharing assistance.

5.2.2.2 Employer Assistance Types. Based on the weighted survey results, Table 5-5 tabulates the estimated number and percentage of all firms in the region that provide different types of commute assistance to their employees. The estimated number and percentage of all regional employees who work at these assisting firms is also shown. By far the largest category of assistance is the provision of company cars for employee use--an estimated 46% of all firms, but most popular

*The 509 firms (2.4%) and the 95 firms (2.9%) broken out in the no contact/assistance and contact/no assistance groups for both the 1-19 and 20-99 size categories are the result of only one firm responding in each of those cells in the unweighted results. The weighting procedures do not change the percentage of responses within each size category or sampling stratum. Compared with the responses from the 500+ category, where the weighting approximately just doubles the number of firms sampled, these four firms have quite an impact. They dominate the first three categories of firm totals by contact/assistance group by producing 81% of the estimated responses in these categories.

among smaller firms. There are also more employees working for employers providing company cars than for those providing any other type of commute assistance--an estimated 31% of all employees. Because company cars are probably available only to a few selected employees, 31% is probably too high an estimate of the number of employees actually "exposed" to this form of commute assistance.

Bus service is a far second in this ordering by employer frequency, with an estimated 5.8% of all firms. Based on estimated employer frequency, transit passes and information on commuting options rank next, respectively, ahead of the three types of assistance classified as "ridesharing assistance" in the previous subsections. (This definition of ridesharing assistance is mostly a consequence of how the data were tabulated in similar evaluations preceding that of Cincinnati.)

Among the estimated employer rankings of the three ridesharing assistance items, helping form carpools and/or vanpools is most popular, with an estimated 814 or 3.2% of all firms participating. Two-thirds of these 814 firms also provide vans for vanpooling. Very few offer HOV incentives. (The total number of firms providing any one of the three types of ridesharing assistance is 816, implying that firms providing vanpool vans or HOV incentives are included among the 814 providing carpool/vanpool formation assistance.)

In looking at the estimated percentage of employees exposed to commute assistance, a somewhat different ordering by frequency of exposure is evident (except for exposure to company cars, as already discussed). Carpool or vanpool formation assistance is not only the most frequent form of ridesharing assistance, it is also the second most frequent form of commute assistance in the list, with an estimated 21% of employees exposed. The percentages of employees exposed to carpool incentives, transit passes, vanpool vans, or information on commuting options are each about the same at an estimated 10 to 11%. Exposure to employer-provided bus service is last (before "other"), with an estimated 6% of all employees.

Table 5-6 lists the estimated breakdown of services provided by employers assisting employees to form carpools or vanpools. The percentages are based on 814 firms, with multiple responses possible. Even with multiple responses, the sum of the estimated responses is only about 60% of the estimated number of those providing carpool/vanpool assistance because of respondents skipping the followup question on breakdown of services.

5.2.2.3 Level of Assistance. Based on 15 responding firms, the average number of employees assisted per month by firms

TABLE 5-5. TYPE OF EMPLOYER COMMUTE ASSISTANCE PROVIDED

Assistance	Estimated # of Firms	Estimated % of All Firms*	Firm Sample Size	Estimated # of Employees at Assisting Firms	Estimated % of All Employees	Employee Sample Size
Company Cars	11,887	46.1%	49	147,397	30.8%	530
Bus Service	1,435	5.8	11	33,890	6.4	157
Transit Passes	1,232	4.9	9	50,874	10.8	128
Information on Commuting Options	1,222	4.7	24	52,251	9.7	479
Carpool or Vanpool Formation Assistance	814	3.2	35	113,392	21.0	655
Vanpool Vans	562	2.2	14	54,366	10.1	240
Carpool Incentives	40	0.2	13	60,052	11.2	269
Other	6	0.1	3	6,791	2.9	67

*Multiple responses permitted; firm sample sizes are based on number of responses.

Source: 1982 Workplace Survey, weighted results.

TABLE 5-6. TYPE OF CARPOOL/VANPOOL FORMATION ASSISTANCE

Type of Formation Assistance Provided	% of Employers Providing Assistance*
Give official encouragement, e.g., endorsing management letter	28.9%
Sponsor employee get-togethers	11.4%
Furnish matching (7.7% in-house, 2.6% demo)	10.3%
Distribute ridesharing information	5.2%
Display ridesharing posters	4.7%
TOTAL RESPONSES	60.5%

*Multiple responses permitted

Source: 1982 Workplace Survey, weighted responses.

helping their employees form carpools and vanpools was 12 for firms of 100 to 499 employees and 20 for firms of 500+ employees. Based on five responding firms, average assistance costs per month for these same two size categories were $300 and $257 per firm, respectively. The average cost per assisted employee in both categories was $12.

Although the numbers of employees assisted may not seem high at first glance, they are actually quite important. Because the average size of the 100-499 size firms was 214 employees, on the average, 67% of the employees could theoretically be assisted per year. A similar conclusion of 20% of employees assisted per year may be drawn for the 500+ category, based on an average size of 1,178 employees. However, to reach such a large fraction of a firm's employees would require a substantial committment to ridesharing. Judging from the fact that only 15 of the 35 firms providing ridesharing assistance (raw sample sizes) bothered to say what type of assistance was being provided, there might not be great enthusiasm for ridesharing on the part of the average employer. Also, the average cost of $12 per employee assisted indicates that a minimal amount of assistance is being provided.

5.2.3 Characteristics of Employers by Participation

Table 5-7 describes the characteristics of the region's firms, classified into four groups by contact with Project Rideshare and provision of ridesharing assistance, as previously defined:

1. In contact with Project Rideshare (at some time) and currently furnishing ridesharing assistance to employees;

2. Never in contact with Project Rideshare but currently furnishing ridesharing assistance;

3. In contact with Project Rideshare (at some time) but not currently furnishing ridesharing assistance; or

4. Never in contact with Project Rideshare and not currently furnishing ridesharing assistance.

The estimated median firm size for each group (Table 5-7a) illustrates both the marketing focus of Project Rideshare on the larger firms and the tendency of the larger firms to provide ridesharing assistance more frequently than smaller firms. Group #1, in contact and assisting, has the largest estimated median size at 878 employees, while group #4 has the smallest estimated median size at 36 employees.

Because there are only 13 to 18 employers per group responding in contact/assistance groups #1 through #3, the tabulation of groups by eight business sectors in Table 5-7b does not yield much information. Although several sectors appear to have much less involvement in ridesharing assistance, e.g., retail or wholesale trade, a preliminary analysis reveals no statistically significant differences when controlling for size.

For instance, government employers stand out as having the highest proportion in groups #1 and #2: 11% in contact and assisting and 39% not in contact but assisting. However, there is no significant difference between government and other types of employers when the effect of size is taken into account. This effect of size is not unexpected because all the government employers are estimated to have 100 or more employees. In comparison, less than 3% of other types of employers employ 100 or more employees.* (This is not to say that there are no small government employers in the OKI region,

*Although location might also be expected to be a good predictor of ridesharing activity, location is not very informative in this case. Part of the reason may be the large (26%) proportion of missing values for the location variable.

TABLE 5-7. SELECTED EMPLOYER CHARACTERISTICS BY EXPOSURE TO PROJECT RIDESHARE AND INVOLVEMENT IN EMPLOYEE RIDESHARING ASSISTANCE

	ESTIMATED EMPLOYER EXPOSURE TO PROJECT RIDESHARE/INVOLVEMENT IN EMPLOYEE RIDESHARE ASSISTANCE									
	In Contact and Assisting		No Contact but Assisting		In Contact but Non-Assisting		No Contact and Non-Assisting		All Employers	
	#	Row %	#	Row %	#	Row %	#	Row %	#	Col %
a. MEDIAN FIRM SIZE										
Number of Employees	878		318		500		36		112	
b. BUSINESS SECTOR										
Manufacturing	57	1.8%	129	4.1%	42	1.3	2,918	92.8	3,146	12.5
Retail or Wholesale Trade or Supplier	4	0.04	0	0	0	0	9,130	99.96	9,134	36.1
Financial or Commercial Services	6	0.1	543	6.1	30	0.3	8,255	93.4	8,834	34.9
Health and Social Services	0	0	34	1.6	0	0	2,072	98.4	2,106	8.3
Transportation, Communications, or Utilities	4	0.6	4	0.6	2	0.3	729	98.5	739	2.9
Educational Institutions	0	0	15	2.2	604	90.5	49	7.3	668	2.6
Government	4	11.0	15	39.0	0	0	19	50	38	0.2
Other	0	0	0	0	0	0	621	100	621	2.5
TOTAL	76	0.3%	740	2.9%	679	2.7%	23,793	94.1%	25,288	100.0%
c. EMPLOYEES MAY VARY WORK START TIME										
Yes	27	0.4%	545	7.1%	17	0.2%	7,070	92.3%	7,660	30.3%
No	49	0.3	195	1.1	662	3.8	16,723	94.8	17,627	69.7
TOTAL	76	0.3%	740	2.9%	679	2.7%	23,793	94.1%	25,288	100.0%
d. EMPLOYER FURNISHES EMPLOYEE PARKING										
Yes	74	0.4%	738	4.0%	662	3.5%	17,209	92.1%	18,682	74.2%
No	2	0.03	2	0.03	17	0.3	6,475	99.6	6,496	25.8
TOTAL	76	0.3%	740	2.9%	679	2.7%	23,683	94.1%	25,178	100.0
e. SAMPLE SIZE	18		18		13		117		166	

Source: 1982 Workplace Survey, weighted results.

but rather that none were included in the workplace survey sample.)

Similarly, the 90% proportion of educational institutions that are estimated to have had contact with Project Rideshare is not significantly different from that of the rest of the business categories. Although none of those in contact are estimated to be furnishing ridesharing assistance, project staff note that the University of Cincinnati, one of the region's major educational institutions, does have a ridesharing program in cooperation with the project. Evidently, the University of Cincinnati was not among the ten educational employers sampled, leading to a misleading estimate.

From Table 5-7c the percentage of firms permitting their employees to vary their starting time, a practice usually considered to be supportive of ridesharing, is estimated to be 70% among the assisting firms and 29% among the nonassisting firms.** However, this percentage is estimated to be 6% among firms in contact with Project Rideshare and 31% among firms not in contact, indicating that allowing employees to vary their start times is more prevalent among firms smaller than those usually contacted by the demonstration project. Overall, an estimated 30% of employers permit varying start times.

About three-fourths of all employers are estimated to furnish parking to their employees. Almost all of the supplied parking is free. Almost all (99.5%) of the assisting employers are estimated to provide parking while 73% of the nonassisting employers are estimated to provide parking. This difference is most likely explained by there being many more firms among the nonassisting employers that are so small that employees can find sufficient parking on the street, eliminating the need to provide additional parking spaces.

5.2.4 Employer Attitudes Toward Ridesharing

Subsection 5.2.4.1 discusses employers' reasons for providing employee transportation assistance, based on the weighted responses of employers. Subsection 5.2.4.2 tabulates the factors considered to be the three most important benefits and the three most important barriers to employer-sponsored ridesharing programs.

**For example, the total number of firms assisting is 76 + 740 = 816; the number assisting and permitting variable start times is 27 + 545 = 572, or 70% of the total.

5.2.4.1 Reasons for Tranportation Assistance. From Table 5-8a, a ranking of the reasons for providing employee transportation assistance of all kinds, including company cars, reveals that the most important reason by far was to provide an additional employee fringe benefit; an estimated 31% of firms favor this reason. If all firms had been surveyed, it is estimated that slightly over 3% would have said they were responding to employee requests, while 1% would have mentioned the fuel crisis of the previous spring as a reason. Sample sizes are too small for the second- and fourth-place reasons, to improve competitive standing and to allow move to current location, to generalize about them.

There was no mention of the need to comply with local regulations. Because some cities have made successful use of planning regulations to require employers to encourage ridesharing, this area might be a potential market for the Cincinnati area.

Table 5-8b shows this ranking when the sample of employers is restricted to those providing ridesharing assistance, as previously defined. Because of very small sample sizes, only the second- and fifth place reasons, to respond to fuel shortage and to provide another employee fringe benefit, give a basis from which to generalize. Note that responding to fuel shortage is now estimated to be more important to the region's employers than providing another fringe benefit.

5.2.4.2 Ridesharing Benefits and Barriers. If all firms in the region had been surveyed, it is estimated that conserving energy would have been the factor cited most often (54%) as the first priority benefit or advantage of sponsoring a ridesharing program for employees (Table 5-9a, column (a)). It is estimated that relieving traffic congestion would have been checked second most often (13%) as first priority. Further down the list, reducing parking requirement was a first-priority reason for only an estimated 1.4% of all employers.

The averages of the first- and second-priority responses (column (b))* and the first- through third-priority responses (column (c)) each showed a comparable ranking at the top of the list, but with some exceptions further down. Most notably, to improve employee punctuality and to reduce parking requirements would have moved up in ranking compared with that of

*The average of first- and second-priority reasons is formed by averaging the percentages of weighted responses ranking a factor first or second priority. A similar measure is formed with first- through third-priority responses. The advantage of these measures is that the effect of the higher priority responses is included in the measure of second or third priority, allowing a quick composite ranking.

TABLE 5-8. EMPLOYERS' REASONS FOR PROVIDING EMPLOYEE TRANSPORTATION ASSISTANCE

a. Responses from Employers Providing All Kinds of Employee Transportation Assistance

REASONS CHECKED	Estimated Number of Firms	%**	Sample Sizes
Provide another employee fringe benefit	7,406	30.6%	35
Improve competitive standing in labor market	2,566	10.6	8
Respond to employee requests	803	3.3	23
Allow move to this location	524	2.2	2
Respond to fuel shortage	239	1.0	21
Reduce parking requirements or costs	78	0.3	13
Comply with local regulations	0	0	0
Allow expansion at this location	0	0	0
Other	1,752	7.2	16

*Includes distribution of transit information and passes as well as allowing use of company cars

**Multiple responses permitted per firm. Percent (%) based on total number of firms checking at least 1 response.

b. Responses from Employers Providing Ridesharing Assistance***

REASONS CHECKED			
Permit move to this location	524	64.2%	2
Respond to fuel shortage	225	27.6	16
Respond to employee requests	164	20.1	6
Reduce parking requirements or costs	76	9.3	4
Provide another employee fringe benefit	72	8.8	9
Improve competitive standing in labor market	19	2.3	1
Other reasons	15	1.8	3

***Consists of pool formation assistance, incentives, and vans; multiple responses possible.

Source: 1982 Workplace Survey, weighted results.

TABLE 5-9. ADVANTAGES AND DISADVANTAGES OF EMPLOYER-SPONSORED RIDESHARING PROMOTION

a. ADVANTAGE CHECKED	Priority of Factor Checked* (a) %	(b) %	(c) %
Conserve energy	54.3%	35.0%	25.9%
Relieve traffic congestion	13.4	21.3	18.4
Improve morale	8.1	7.8	5.7
Provide effective fringe benefit	6.4	6.2	5.5
Improve punctuality	5.2	12.6	10.7
Increase visitor parking	4.0	3.6	7.7
Expand labor pool	3.2	2.3	6.5
Reduce parking requirements	1.4	5.9	7.6
Reduce absenteeism	0.5	2.3	3.8
Compete in labor market	0.5	0.3	1.1
Improve company image	<0.1	0.3	2.6
Expand at present location	0	1.8	2.3
Reduce overtime requirements	0	0	1.3
Other	3.0	1.5	1.0
TOTAL	100.0%	100.0%	100.0%
(Sample size)**	(186)	(157)	(157)
b. DISADVANTAGE CHECKED	(a)	(b)	(c)
Carpoolers don't work late	20.1	18.4	17.6
Difficult to initiate	19.9	20.3	19.0
Few employees benefit	19.7	16.4	14.0
Inappropriate employer role	16.3	14.1	12.6
High start-up costs	7.3	5.0	4.3
High operating costs	6.2	7.3	5.2
Potential liability risks	4.4	7.1	9.3
Carpoolers work fewer hours	2.4	2.7	1.8
Regulatory restrictions	0.4	0.3	0.2
High staff time requirements	0.2	1.6	5.4
Potential labor complications	<0.1	0.8	0.5
Insurance costly or unavailable	0	3.0	3.1
Carpoolers aren't punctual	0	0.5	3.0
Other	3.1	2.9	3.9
TOTAL	100.0%	100.0%	100.0%
(Sample size)	(181)	(169)	(169)

*(a)=percentage of weighted responses with factor as first priority, (b)=average percentage of weighted responses with factor as first or second priority, (c)=average percentage of weighted responses with factor as first, second, or third priority.

**Sample size given for averages is that of priority with smallest sample size.

Source: 1982 Workplace Survey, weighted results; percentages may not sum to 100% because of rounding.

column (a).

Referring to Table 5-9b, column (a), three factors were each regarded by about the same estimated fraction of employers as a first-priority barrier or disadvantage to sponsoring ridesharing: carpoolers not working late, programs being difficult to initiate, and few employees benefiting were each ranked as first priority by an estimated 20% of the weighted responding employers. This same trio of reasons was also estimated to be the top three reasons in the average of first- and second-priority reasons (column (b)), although the difficulty of initiating the programs headed the list with 20% of the weighted responses. Concerns about employer liability and high staff time requirements moved up somewhat when the top three priority reasons were averaged (column (c)).

5.3 EMPLOYEE RIDESHARING PARTICIPATION

The rest of this chapter addresses the questions outlined in subsection 5.1.2.2 on the degree of ridesharing as a function of employer participation and Project Rideshare marketing, changes in commute mode, reasons for carpooling, and characteristics of ridesharers and nonridesharers. These questions are addressed in turn in sections 5.3.2 through 5.3.5. Subsection 5.3.1 precedes these questions with a presentation of the employee exposure to Project Rideshare and employer-based promotion.

5.3.1 Employee Contact with Ridesharing Promotion

About 194,000 or 37% of all employees in the OKI region are estimated to be familiar with the activities of Project Rideshare and/or to work for employers who furnish ridesharing assistance. Breaking this total down, an estimated 82,000 or 16% of the region's employees are familiar with Project Rideshare but do not work for employers who furnish ridesharing assistance. An estimated 47,000 or 9% of the region's employees are familiar with Project Rideshare and work for assisting employers. The remaining 65,000 or 12% of the region's employees are estimated to be unfamiliar with Project Rideshare but to work for assisting employers.

Subsection 5.3.1.1 discusses the overall familiarity of employees with Project Rideshare. Subsection 5.3.1.2 considers the exposure of employees to both employer ridesharing assistance and Project Rideshare.

5.3.1.1 Employee Familiarity with Project Rideshare. Based on the weighted results from the workplace survey listed in Table 5-10a, about one-fourth (134,000) of the employees in the

TABLE 5-10. EMPLOYEE FAMILIARITY WITH PROJECT RIDESHARE

a. FAMILIAR WITH ACTIVITIES OF PROJECT RIDESHARE	Estimated No. of Employees	%	Sample** Sizes
Yes	133,977	24.0%	655
No	424,637	76.0	2,009
TOTAL	558,614	100.0%	2,664
b. RECEIVED FROM PROJECT RIDESHARE*			
Carpool/vanpool information	44,550	33.3%	219
Transit information	12,791	9.5	85
Ridematching/Matchlist	14,293	10.7	104
Assistance in joining or forming a carpool	5,236	3.9	55
Other	418	0.3	6

*Multiple responses permitted; percentages given are of all those reporting familiarity with Project Rideshare activities.
**Sample cases, prior to weighting for employer size classification and commute mode.

Source: 1982 Workplace Survey, weighted results.

Cincinnati region are estimated to be familiar with the activities of Project Rideshare.* Table 5-10b notes what persons familiar with Project Rideshare had received from the project. An estimated one-third, or 44,550, had received information on carpooling or vanpooling. An estimated 11% had received a matchlist; an estimated 10% had received transit information. An estimated 4% had received some other assistance in joining or forming a carpool.

Thus, the majority of those who are familiar with the activities of Project Rideshare appear only to have heard of the program and not to have had direct contact with it by receiving ridesharing information or some other type of assistance.

5.3.1.2 Exposure through Employer-Based Assistance. An estimated 116,627 employees or 22% of the regional total worked for employers who furnished ridesharing assistance, as previously defined, to their employees. This figure includes the 73,046 (14% of regional total) in contact with Project Rideshare and 43,581 (8%) more not in contact with Project Rideshare. Those firms in contact were much more likely to be furnishing ridesharing assistance to their employees than those not in contact, 69% compared with 10%. An estimated 20% of all regional employees worked for firms in contact with Project Rideshare.

As might be expected, a higher proportion of employees were familiar with Project Rideshare among employers in contact with Project Rideshare than among employers not in contact--43% compared with 20%. Likewise, for firms in contact with Project Rideshare, a higher proportion of employees were familiar with Project Rideshare when the employer sponsored ridesharing assistance--50% compared with 26%. Among firms not in contact with Project Rideshare, a higher proportion of employees were also familiar with Project Rideshare when the employer

*The reader may notice that occasionally the estimated number or fraction of employees presented in one part of this report may not agree exactly with a similar presentation elsewhere in the report. Here, the estimated 134,000 employees does not match the total of 129,000 that one could derive from the breakdown by familiarity and assistance presented two paragraphs ago. Here, as in similar situations, the reason for the difference is that one of the figures comes from a crosstabulation with more or different variables (e.g., tabulation by familiarity and assistance compared with just tabulation by assistance). The missing variables associated with the new or additional variables result in an estimated number that is different. To obtain more exact estimated numbers, one could apply the percentages to a constant total number of employers or employees (see Appendix A).

sponsored ridesharing assistance, but the difference was much less marked--26% compared with 19%.

Table 5-11 presents a summary of employee exposure to ridesharing promotion by firm size. Employee exposure to rideshare promotion is classified by the yes or no value of three variables:

1. Employer in contact with Project Rideshare?

2. Employer furnishing ridesharing assistance to employees?

3. Employee familiar with Project Rideshare?

Eight combinations of these variables result, ranging from employer contact, employer assistance, and employee familiarity to no employer contact, no employer assistance, and no employee familiarity with Project Rideshare.

Employer ridesharing involvement and employee exposure to ridesharing promotion in the 20-99 size category is only slightly different from that of the smallest size category. However, compared with these smaller firms, substantial differences emerge among employees of firms with 100 to 499 employees. Adding up subcategories, more employees are estimated to work for firms in contact with Project Rideshare, 18% compared with 2% to 5% in the two smaller size categories. Also, an estimated 28% of employees in the 100-to-499 size category are exposed to employer ridesharing assistance, compared with an estimated 2% in each of the smaller size categories. However, as in the two smaller two categories, about 80% are estimated to not be familiar with Project Rideshare. Employer ridesharing activity makes little difference in the proportion of employees familiar with Project Rideshare.

Compared with the three smaller size categories, much higher levels of employer involvement and employee familiarity are estimated to exist among firms with 500 or more employees. The most striking difference is that over half the employees in this size category are estimated to work for employers in contact with Project Rideshare and furnishing employee ridesharing assistance. There were none doing so in the two smaller size categories and an estimated 10% doing so in the 100-to-499 size category. Also, a greater proportion of employees are familiar with Project Rideshare than not familiar among the in-contact/assisting employers, 29% familiar compared with 23% not familiar.

Finally, from adding up subcategories, one can see that a majority (75,800 or 65%) of the 500+ employees are exposed to employer ridesharing assistance, mostly by employers in contact

TABLE 5-11. EMPLOYEE EXPOSURE TO RIDESHARING PROMOTION BY FIRM SIZE

Estimated Employer Involvement and Employee Familiarity with Project Rideshare Activities

	EMPLOYER IN CONTACT WITH PROJECT RIDESHARE				EMPLOYER NOT IN CONTACT WITH PROJECT RIDESHARE					
	EMPLOYER SPONSORS EMPLOYEE RIDESHARING ASSISTANCE				EMPLOYER SPONSORS EMPLOYEE RIDESHARING ASSISTANCE					
	YES		NO		YES		NO			
Employer Size	Fam.*	Not Fam.*	Fam.	Not Fam.	Fam.	Not Fam.	Fam.	Not Fam.	All Employees	Sample Size
Less than 20	0	0	0	2,853	2,547	0	31,347	120,029	156,776	251
	0	0	0	1.8%	1.6%	0	20.0%	76.6%	100%	
20-99	0	0	1,867	4,492	247	1,984	23,712	104,394	136,696	521
	0	0	1.4%	3.3%	0.2%	1.4%	17.3%	76.4%	100%	
100-499	2,250	9,152	1,967	7,441	4,364	16,036	12,891	58,158	112,261	593
	2.0%	8.1%	1.8%	6.6%	3.9%	14.3%	11.5%	51.8%	100%	
500 or more	34,355	27,289	4,482	9,083	3,136	10,988	5,192	22,698	117,224	994
	29.3%	23.3%	3.8%	7.7%	2.7%	9.4%	4.4%	19.4%	100%	
TOTAL	36,605	36,442	8,316	23,870	10,294	29,008	73,143	305,279	522,957	2,359
PERCENT	7.0%	7.0%	1.6%	4.5%	2.0%	5.5%	14.0%	58.4%	100.0%	
TOTALS	14.0%		6.1%		7.5%		72.4%		100.0%	
	20.1%				79.9%				100.0%	

*Fam. and not fam. refer to employees familiar or not familiar with Project Rideshare.

Source: 1982 Workplace Survey, weighted results; numbers and percentages may not add to total because of rounding.

with Project Rideshare. An estimated 47,000 or 40% of the employees in the 500+ category are familiar with Project Rideshare, compared with 20% in the three smaller firm categories. One can argue that only among the larger firms has employer participation enough effect to cause more familiarity with Project Rideshare than does the project's general public marketing or word of mouth.

5.3.2 Employee Ridesharing

The term ridesharing, as used here, is defined as carpooling and vanpooling. Buspooling is either treated separately or grouped with the other transit modes. (Only 0.2% of the region's employees were estimated to buspool by the workplace survey.) This subsection first analyzes employee ridesharing as a function of employer contact with Project Rideshare and employer-sponsored ridesharing assistance. Considered next is the effect on ridesharing mode split of these employer variables combined with employee familiarity with Project Rideshare. The subsection ends with an analysis of ridesharing mode split as a function of all these promotional variables combined with firm size.

Table 2-1 at the end of Chapter 2 listed the estimated regional modal split by employer size. About 19% of all employees commuted to work in carpools or vanpools. Another 8.3% used transit or buspools, less than 2% walked or biked, and just over 70% drove alone to work. Ridesharing increased with firm size, approaching 29% in the 500+ firms.

Table 5-12 breaks down these results by employer contact with Project Rideshare and involvement in ridesharing assistance. Four contact/assistance categories are used:

1. Employee working for firm that is in contact with Project Rideshare and that does furnish ridesharing assistance to employees;

2. Employee working for firm that is in contact with Project Rideshare and that does <u>not</u> furnish ridesharing assistance to employees;

3. Employee working for firm that is <u>not</u> in contact with Project Rideshare and that does furnish ridesharing assistance to employees;

4. Employee working for firm that is <u>not</u> in contact with Project Rideshare and that does <u>not</u> furnish ridesharing assistance to employees.

For ridesharing, one can see that the important variable in Table 5-12 is whether or not the employer furnishes

TABLE 5-12. COMMUTE MODE BY EXPOSURE TO EMPLOYER-SPONSORED RIDESHARING ASSISTANCE

Estimated Employer Contact With Project Rideshare and Level of Rideshare Promotion

	EMPLOYER IN CONTACT WITH PROJECT RIDESHARE				EMPLOYER NOT IN CONTACT WITH PROJECT RIDESHARE				ALL EMPLOYEES		SAMPLE SIZE
	EMPLOYER SPONSORS EMPLOYEE RIDESHARING ASSISTANCE				EMPLOYER SPONSORS EMPLOYEE RIDESHARING ASSISTANCE						
	YES		NO		YES		NO				
	#	%	#	%	#	%	#	%	#	%	#
Drive Alone	41,904	60.0%	20,736	64.4%	24,696	62.8%	272,643	72.3%	359,979	69.5%	1,577
Rideshare	20,762	29.7	6,320	19.6	13,026	33.1	59,980	15.9	100,088	19.3	603
Local Bus	5,211	7.5	2,372	7.4	1,189	3.0	24,743	6.6	33,515	6.5	139
Express Bus	1,177	1.7	1,627	5.0	327	0.8	8,987	2.4	12,118	2.3	56
Buspool	599	0.9	0	0	65	0.2	488	0.1	1,152	0.2	8
Taxi	0	0	112	0.4	0	0	1,617	0.4	1,729	0.3	2
Walk	120	0.2	855	2.7	0	0	6,324	1.7	7,298	1.4	20
Bicycle	0	0	165	0.5	0	0	2,293	0.6	2,457	0.5	3
TOTAL	69,774	100.0%	32,186	100.0%	39,302	100.0%	377,074	100.0%	518,336	100.0%	2,408
SAMPLE SIZE	371		246		275		1,516		2,408		

Source: 1982 Workplace Survey, weighted responses.

ridesharing assistance to employees. These ridesharing differences (between categories #1 and #2 and between categories #3 and #4) are statistically significant. However, the differences in ridesharing associated with employer contact/no contact with Project Rideshare are not statistically significant.

Corresponding to the increasing level of ridesharing with increasing employer ridesharing assistance, there is decreasing driving alone with increased ridesharing assistance. But because of countervailing trends in transit use with ridesharing assistance, the decrease in driving alone is statistically significant only for employers not in contact with Project Rideshare (category #3 compared with #4).

Table 5-13 takes this analysis one step further by breaking down ridesharing mode split by these four contact/assistance categories combined with employee familiarity with Project Rideshare. In the absence of employer-sponsored ridesharing assistance, one might expect that employee familiarity with Project Rideshare would lead to increased ridesharing compared with no familiarity. That is not the case here. Not only is there no statistically significant difference in the ridesharing mode split with the level of employee familiarity, but the trend is not necessarily in the expected direction.

The greatest "effect" of familiarity occurs in category #3 (no contact but assisting), 44% ridesharing among those familiar compared with 29% ridesharing among those not familiar. Because of a small sample size, even this difference is not statistically significant. The conclusion is that employee familiarity with Project Rideshare does not have a significant effect on the level of ridesharing among employees.

Table 5-14 investigates the relationship between ridesharing mode split and employer ridesharing assistance combined with employer size. Employer contact with Project Rideshare and employee familiarity with Project Rideshare are excluded from Table 5-14 because so little correlation with ridesharing mode split was observed in Table 5-12 and Table 5-13. (Indeed, crosstabulations by employer size combined with either one or both of these variables show no statistically significant differences in ridesharing mode split.)

There are three important observations to make about Table 5-14. First, the sample sizes are too small to generalize about the ridesharing mode split of employees working for small (less than 100 employees) employers that furnish ridesharing assistance. There may well be a larger fraction of employees ridesharing among small firms that furnish ridesharing assistance compared with those that do not, but one can not prove it with these data. Second, only when all size

TABLE 5-13. EMPLOYEE RIDESHARING MODE SPLIT BY EXPOSURE TO RIDESHARING ASSISTANCE AND FAMILIARITY WITH PROJECT RIDESHARE

Employer Contact/Assistance Group*	% Ridesharing	Sample Size**
#1: Contact/Assistance		
Familiar	28%	184
Not Familiar	32%	187
#2: Contact/No Assistance		
Familiar	17%	70
Not Familiar	20%	176
#3 No Contact/Assistance		
Familiar	44%	55
Not Familiar	29%	220
#4: No Contact/No Assistance		
Familiar	17%	274
Not Familiar	16%	1,242
ALL EMPLOYEES	19%	2,408

*See page 79 for definition of four employer contact/assistance categories. "Familiar" and "Not Familiar" refer to employees familiar and not familiar with Project Rideshare.
**Sample size is for all modes.
Source: 1982 Workplace Survey, weighted data.

categories are totaled is there significantly more ridesharing among assisted employees compared with unassisted employees.

Third, this overall difference in ridesharing between assisted and unassisted employees, 31% compared with 16%, is associated more with the effects of firm size than the level of employer ridesharing assistance. The apparent strong association between ridesharing mode split and employer ridesharing assistance (for all firms) is explained by the following three points:

1. The level of ridesharing is lower among employees of small firms, averging 16% for firms with less than 100 employees. Exposure to employer-sponsored ridesharing assistance is also practically non-existent among these smaller firms, an estimated 1.6% of employees (Table 5-11).

TABLE 5-14. RIDESHARING MODE SPLIT BY EMPLOYER-SPONSORED RIDESHARING ASSISTANCE AND FIRM SIZE

EMPLOYER RIDESHARING ASSISTANCE LEVEL	EMPLOYEES RIDESHARING BY FIRM SIZE 1-19	20-99	100-499	500+	ALL EMPLOYEES
Provides Ridesharing Assistance					
# Ridesharing	2,457	1,234	8,229	21,778	33,698
% Ridesharing	100%	55%	26%	30%	31%
Sample Size (n)	(2)	(12)	(165)	(467)	(646)
Does Not Provide Ridesharing Assistance					
# Ridesharing	17,046	19,416	18,820	11,006	66,288
% Ridesharing	11%	14%	23%	27%	16%
Sample Size (n)	(248)	(509)	(428)	(524)	(1,709)
ALL EMPLOYEES					
# Ridesharing	19,503	20,650	27,049	32,784	99,986
% Ridesharing	16%	15%	24%	29%	19%
Sample Size (n)	(250)	(521)	(593)	(991)	(2,355)

Source: 1982 Workplace Survey, weighted results.

2. Whether or not ridesharing assistance is provided, there is a statistically significant increase in ridesharing among firms with over 100 employees compared with those of less than 100 employees. Ridesharing mode split is estimated to average 26% for all firms with 100 or more employees, 29% for the larger assisting firms, and 24% for the larger nonassisting firms. The proportion of employees exposed to employer-sponsored ridesharing assistance is estimated to be about 47% for firms with 100+ employees (Table 5-11), but ridesharing mode split is not significantly higher among the assisted employees than the unassisted.

3. Consequently, ridesharing mode split and the level of employer-sponsored ridesharing assistance both vary with employer size. However, increased ridesharing assistance among larger firms does not appear to cause the major part of the increased ridesharing activity found among the larger firms. It is thought that the major reason for the increased ridesharing among large employers is that ridesharing is easier because of more opportunity for ridesharing partners at the same work site.

To further explore the cause of ridesharing, section 5.3.3 examines the changes in commute mode over the life of the demonstration. Then section 5.3.4 analyzes the estimated reasons for commuter ridesharing, based on the stated reasons of survey respondents.

5.3.3 Changes in Commute Mode

To look at the change in commute mode over the period of the demonstration, subsection 5.3.3.1 compares the commute modes of ridesharers and non-ridesharers before and after the demonstration. Subsection 5.3.3.2 examines the length of ridesharing arrangements by employer ridesharing assistance/contact with Project rideshare and employee familiarity with Project Rideshare.

5.3.3.1 Before/After Commute Modes. Based on all weighted responses from the workplace survey, Table 5-15 illustrates that there was no measurable change in the amount of ridesharing among employees in the OKI region between spring 1980, prior to the demonstration, and spring 1982, after the demonstration. Carpooling and vanpooling comprised about 19% of work commute trips at both times. There was a statistically significant increase in driving alone over this period, coupled with lesser decreases in transit use and walking.

The change in commute mode from before to after the demonstration was also analyzed with respect to contact with ridesharing promotion and changes in work or residence location over the two years. Crosstabulations of mode split by the three contact or assistance variables (employer contact with Project Rideshare, level of employer-sponsored ridesharing assistance, and employee familiarity with Project Rideshare) revealed no important differences in the breakdowns of ridesharing mode split between 1980 and 1982. (See Table 5-13 and the related text for a breakdown of the ridesharing mode split in 1982.)

For those new to the area, the before/after mode split was different from that of Table 5-15. Compared with the older

TABLE 5-15. REGIONAL COMMUTE MODE SPLIT BEFORE AND AFTER THE DEMONSTRATION

Commute Mode	Estimated % of All Employees by Year Spring 1980	Spring 1982
Drive alone	66.9%	70.5%
Carpool/vanpool	19.3%	19.0%
Transit	10.5%	8.8%
Walking	2.6%	1.3%
Other	0.7%	0.4%
Sample Size (n)	(2,526)	(2,707)

Source: 1982 Workplace Survey, weighted responses.

residents, the new residents had slightly higher percentages driving alone or ridesharing in both years and significantly less transit usage. For example, 4% of the new residents used transit compared with 9% of the old residents in 1982. This difference is associated with more new residents than old living in the suburbs, but local variations in the definition of "in the Cincinnati metropolitan area" give a slight twist to the logic.*

There was a statistically significant estimated drop in transit use between 1980 and 1982 for those who said they were living in the metropolitan area, 12% in 1980 compared with 9% in 1982. Further analysis reveals that the source of this drop in transit usage was changing transit patterns among those who changed work or residence location within the metropolitan area in the two years. Among those who changed work location, transit usage is estimated to have dropped from 12% to 8% in two years. Among those who changed residence location, transit usage is estimated to have dropped from 11% to 5%. (Each of these changes is statistically significant at the 95% level.) There were no statistically significant changes in transit usage among those who kept the same work or residence location.

*There is not a strong regional identification with Cincinnati in many suburban areas because of high community identity. Hence the question, "Were you living in the Cincinnati metropolitan area two years ago?", is likely to have many among the estimated 20% negative responses who really did not change their residence over the course of the demonstration.

Because Cincinnati, like many metropolitan areas, is experiencing a shift to the suburbs for both jobs and housing, one could speculate that the reason for the drop in transit usage is such a shift to the suburbs where the private auto is more prominant. This period was also a time of falling gasoline prices, which might might have caused some lowering of transit ridership. There were no substantial transit service cuts during this period, but there was a $0.20 fare increase that caused some system-wide loss in transit ridership.

Those who continued to live or work at the same location are estimated to have had no statistically significant change in their commute mode split between 1980 and 1982. However, ridesharing mode split did go up slightly for those who kept the same residence or work location. Commuters with the same work or residence location over the course of the demonstration were the only two groups for which there was even a non-significant rise in ridesharing, e.g., from 21% to 22%. Because there was no significant commute mode split change among the majority of the population (about 60%) who kept their work or residence locations the same, the increase in driving alone that shows up overall is also primarily attributable to those who changed work or residence location. For work and residence changes, the statistically significant increases in driving alone between 1980 and 1982 were 64% compared with 71% and 65% compared with 74%, respectively. There were no statistically significant changes in ridesharing over these two years for any group analyzed, but those changing residence location did drop their ridesharing mode split from 20% to 17% in two years.

5.3.3.2 Length of Ridesharing Arrangements. Table 5-16 summarizes the length of time that responding ridesharers and vanpoolers had been commuting with at least one other member of their pool. Note that the table is not an accurate measure of the length of ridesharing arrangements in the region. This is because only current ridesharers are questioned and none are necessarily at the end of their ridesharing arrangement. With this point in mind, the mean length of ridesharing arrangements is estimated to be 2.9 years, the median length of ridesharing arrangements is 2.0 years, and 42% of all arrangements have lasted less than two years. It is estimated that 64% of current ridesharing arrangements are at least two years old and an additional 20% are between two and four years old. Very few are over four years old.

In looking at the breakdown of duration of ridesharing by employer involvement and employee familiarity, attention will be focused on the up-to-two-year category for two reasons. First, this category includes the ridesharers that possibly

TABLE 5-16. LENGTH OF RIDESHARING BY EXPOSURE TO EMPLOYER-SPONSORED RIDESHARING ASSISTANCE AND FAMILIARITY WITH PROJECT RIDESHARE

Estimated Employer Involvement and Employee Familiarity with Project Rideshare Activities

DURATION OF RIDE-SHARING	EMPLOYER IN CONTACT WITH PROJECT RIDESHARE				EMPLOYER NOT IN CONTACT WITH PROJECT RIDESHARE				ALL EMPLOYEES	SAMPLE SIZE
	EMPLOYER SPONSORS EMPLOYEE RIDESHARING ASSISTANCE				EMPLOYER SPONSORS EMPLOYEE RIDESHARING ASSISTANCE					
	YES		NO		YES		NO			
	EMPLOYEES FAMILIAR WITH PROJECT RIDESHARE				EMPLOYEES FAMILIAR WITH PROJECT RIDESHARE					
	YES	NO	YES	NO	YES	NO	YES	NO		
	%	%	%	%	%	%	%	%	%	#
Up to 2 years	64.8%	78.0%	70.0%	48.8%	73.5%	65.3%	62.3%	61.7%	64.5%	274
2 to 4 years	12.3	10.8	26.8	32.2	3.9	16.2	26.8	23.6	19.8	105
4 to 6 years	5.0	0	3.2	0	0	8.4	3.8	4.1	3.6	24
6 to 10 years	9.4	9.2	0	9.2	8.0	7.1	5.9	5.3	6.9	38
More than 10 years	8.5	1.9	0	9.8	14.6	3.1	1.3	5.4	5.2	28
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	469
Employees	9,202	10,506	1,067	4,627	2,681	7,325	6,524	31,583	73,515	
Row %	12.5%	14.3%	1.5%	6.3%	3.6%	10.0%	8.9%	43.0%	100.0%	
Sample Size	67	57	11	45	9	59	40	81	469	

Source: 1982 Workplace Survey, weighted responses. Percentages may not add to 100% because of rounding.

could have been influenced by the demonstration. Second, the sample sizes are small enough to make one suspect that most of the variation among cells in the other categories is a consequence of not enough unweighted responses to fill all of the cells. (The small sample sizes are the consequence of dividing up the current ridesharers, 20% of the sample, into a five-by-eight crosstabulation.)

In the absence of employer-sponsored ridesharing assistance, the up-to-two-year category shows that there is a consistently higher proportion of new ridesharers among employees familiar with Project Rideshare compared with those not familiar. However, this trend is not consistent when employees are exposed to employer-sponsored ridesharing assistance. Also, the only difference in this up-to-two-year category that is statistically significant is between the first and fourth column, 65% of employees assisted and familiar compared with 49% of employees unassisted and unfamiliar.

To more clearly illustrate the association of employer involvement with new ridesharers, Table 5-17 breaks down just the up-to-two-year category without employee familiarity included. From the four employer contact/assistance categories (defined on page 79), one can see that larger proportions of new ridesharers are associated with increased employer ridesharing assistance between categories #1 and #2 and between categories #3 and #4. However, only the difference between categories #1 and #2, 72% compared with 53%, is statistically significant. If the proportions of new ridesharers are combined into two categories of assistance compared with no assistance, a significantly higher proportion of new ridesharers are estimated to occur among ridesharers assisted by their employers, 70% compared with 60%. No statistically significant difference emerges if these four categories are collapsed into two categories of employer contact compared with no contact with Project Rideshare.

Because there is constant attrition among ridesharing commuters, these higher levels of new ridesharers indicate higher rates of ridesharing arrangement formation. Thus there is an indirect correlation of ridesharing assistance, particularly from employers, with higher rideshare formation rates and more new ridesharers.

5.3.4 Reasons for Carpooling and Vanpooling

Subsection 5.3.4.1 begins this discussion of employee reasons for carpooling and vanpooling with an analysis of stated reasons for both ridesharing and choice of commute mode in general. Data on how the ridesharing arrangements were formed and what incentives were being used are also presented. Subsection 5.3.4.2 ends the discussion with an analysis of how commuters used Project Rideshare carpool assistance.

TABLE 5-17. LENGTH OF RIDESHARING BY EMPLOYER INVOLVEMENT

Employer Contact/Assistance Group*	% of Ridesharers Ridesharing Up To 2 Years	Sample Size
#1: Contact/Assistance	72%	124
#2: Contact/No Assistance	53%	56
#3 No Contact/Assistance	67%	68
#4: No Contact/No Assistance	62%	121
ALL RIDESHARERS	65%	469

*See page 79 for definition of four employer contact/assistance categories.
Source: 1982 Workplace Survey, weighted data.

5.3.4.1 Mode Choice Reasons. Table 5-18a shows the estimated priority of reasons for carpooling and vanpooling, based on weighted data from workplace survey respondents currently ridesharing. The most important reasons are economic: "cheaper than driving alone or taking transit" and "saves wear and tear" are estimated to constitute over 28% and 17% of first-priority reasons. These two responses were also the most prominant among the averages of first- and second-priority reasons and first- through third-priority reasons.

Convenience emerged as the next most important reason for ridesharing. Convenience compared with transit comprised an estimated 13% of the first-priority reasons and just slightly less of the averaged priorities. But "prefer not always driving" was estimated to be third in the numerical rank of the averaged first- and second-priority reasons and first- through third-priority reasons.* About equal to "prefer not always driving" among first-priority reasons was "like commuting with family members". "Faster than transit" and social reasons followed among first-priority reasons. Carpool incentives and "Project Rideshare help" brought up the bottom of the list.

*The average of first- and second-priority reasons is formed by averaging the percentages of weighted responses ranking a factor first or second priority. A similar measure is formed with first- through third-priority responses. The advantage of these measures is that the effect of the higher priority responses is included in the measure of second or third priority, allowing a quick composite ranking.

TABLE 5-18. CARPOOLERS' REASONS AND INCENTIVES FOR CARPOOLING[1]

a. REASONS CHECKED FOR FORMING OR JOINING A CARPOOL	Priority of Factor Checked[2] (a) %	(b) %	(c) %
Cheaper than SOA[3] or transit	28.5%	24.8%	21.5%
Saves auto wear	17.6	20.7	16.2
More convenient than transit	13.3	13.0	10.9
Prefer not always driving	10.9	13.4	15.7
Like commuting with family members	10.0	9.3	10.1
Faster than transit	8.8	8.2	8.4
Convenient to others	3.6	4.4	4.7
Like company on work trip	1.9	2.9	8.2
Company parking privileges	0.1	0.3	0.7
Cheap downtown parking	0.1	0.2	0.6
Project Rideshare help	0.1	0.1	0.4
Other	5.1	2.8	2.7
TOTAL	100.0%	100.0%	100.0%
(Sample size)[4]	(518)	(472)	(467)

b. HOW DID YOU JOIN OR FORM YOUR CARPOOL?	%[5]	Sample Size
Household members decided to commute together	44.2%	181
Newspaper advertisement	0.1	1
Company newsletter or notice	1.7	14
Company matching program	3.4	6
Project Rideshare help	0.6	5
Informal contact at work	47.6	276
Informal contact in neighborhood	8.9	68
Other	4.8	16

c. DOES YOUR CARPOOL USE...?		
Preferential carpool parking	8.3%	47
Carpool parking discounts	1.2	9
Employer vans	0.9	8
Reserved lanes or bypass ramps	<0.1	1
Park and ride lots	2.2	24
Other	3.4	24

[1]Carpool definition includes vanpools.
[2](a)=percentage of weighted responses with factor as first priority, (b)=average percentage of weighted responses with factor as first or second priority, (c)=average percentage of weighted responses with factor as first, second, or third priority.
[3]Single-occupant auto.
[4]Sample size given for averages is that of priority with smallest sample size.
[5]Multiple responses permitted; percentages given are of all employee carpoolers, an estimated 82,314. Sample sizes are number of affirmative responses.

Source: 1982 Workplace Survey, weighted responses.

From Table 5-18b, most commuters joined their carpool through informal contact at work (47.6%) or when household members decided to commute together (44.2%). Those joining through informal contact in the neighborhood are estimated to comprise about 9% of the current ridesharers. Work related activities such as company matching programs or notices are estimated to constitute about 3% and 2%, respectively, of the ways ridesharers formed pools. Help from Project Rideshare comprised an estimated 0.6% of the ways ridesharers formed or joined ridesharing arrangements, corresponding to an estimated 505 persons.

From Table 5-18c, the most frequently used carpool incentive was preferential parking, used by an estimated 8% of current ridesharers. Less frequently used incentives were park-and-ride lots, carpool parking discounts, employer vans, and reserved lanes or bypass ramps. Thus, very few ridesharers are estimated to make use of ridesharing incentives. And even those who used the incentives did not necessarily begin ridesharing because of the incentives. For example, of the two public parking lots that gave reduced parking rates for carpools in downtown Cincinnati, the percentage of ridesharing users that previously drove alone was 21% for the most centrally located lot and 8% for the riverfront lot (subsection 4.5.2.1).

To sum up the results of Table 5-18, most ridesharing appears to be for economic reasons, though convenience and social factors are also important. Most ridesharers formed their pool through informal contact at the work or home end of the commute and made no use of ridesharing incentives. Given that most ridesharing across the country is the result of factors that have nothing to do with organized programs, this is not a surprising portrait of ridesharing in a region that has had a regional program for only two years.

Thus, based on commuter responses, both employer and Project Rideshare assistance are estimated to have had only very small direct effects on total ridesharing. Perhaps about 10% of those ridesharing have used information, assistance, or incentives. It is debatable what percentage of these ridesharers would not be ridesharing were it not for Project Rideshare, employer programs, and incentives. For one thing, a direct question to this effect has never been asked. Analysis of project records suggests that about 2,000 or 2% of the region's ridesharers were influenced to rideshare by Project Rideshare in conjunction with employer cooperation (Table 4-4).

However, there may be an indirect effect from increasing public awareness of ridesharing that is not credited by survey respondents. For example, a primary message of Project Rideshare's promotion is the favorable economics of ridesharing

(Appendix B). Given the prominent economic motivations of carpoolers, this promotion could have had the effect of bringing cost to the attention of some would-be ridesharers. How large a fraction this might be is unknown, but given that cost is important to about 30% of ridesharers, 5% to 10% of ridesharers constitute an upper bound for those who might have been so affected.

Whereas Table 5-18 analyzed reasons for ridesharing that emerged when current ridesharers were asked about joining a carpool, Table 5-19 presents the top-priority factors related to commute mode choice in general. Notice that the results for ridesharers are quite different. Among ridesharers, convenience ranked first at 30%, with cost next at 27%, and fast travel time a distant third at 12% of the first-priority reasons.

Among the solo drivers, Table 5-19 shows a series of factors more important than cost in the commute mode choice. Leading the list of first-priority factors for solo drivers are convenience (30%) and fast travel time (21%), followed by schedule requirements, needing car during work hours, and transit unavailable. Low cost is a first-priority concern of an estimated 7% of solo drivers. As might be expected, needing a car during working hours was much more important to solo drivers than to ridesharers as a first-priority reason, 10% compared with about 2%. But even among solo drivers, not many need cars during work, and very few (4%) need to make stops along the way.

The other commute modes, mainly comprised of transit, have a profile of first-priority reasons much more like ridesharers, with two notable exceptions. Low cost leads the list (32%), and household vehicle unavailable is greater, 9% for others compared with 4% for ridesharers.

Among the averaged first- and second-priority reasons and first- through third-priority reasons, the ranking of commute choice factors was quite similar to that of first-priority reasons for ridesharers and others. Convenience has replaced cost as most important for others, and need to stop along work trip rose slightly for both ridesharers and others compared with the first-priority ranking. The average priorities for solo drivers were also quite similar to the first-priority ranking, but again the need to make stops along the way to work rose slightly compared with the first-priority ranking.

In sum, convenience ranks highest for both ridesharers and solo drivers, perhaps because the word is all-encompassing. Others give cost a slight edge over convenience. Solo drivers rank fast travel time as more important than cost, while ridesharers and others (mostly transit users) have the opposite view.

TABLE 5-19. TOP PRIORITY FACTORS IN COMMUTE MODE CHOICE OF RIDESHARERS, SOLO DRIVERS, AND OTHERS*

FACTORS LISTED	PRIORITY OF FACTORS CHECKED** (a) Ride-sharers	(a) Solo Drivers	(a) Other	(b) Ride-sharers	(b) Solo Drivers	(b) Other	(c) Ride-sharers	(c) Solo Drivers	(c) Other
Convenience	30.3%	32.8%	25.0%	29.4%	28.6%	27.4%	25.8%	25.2%	24.9%
Low cost	27.1	6.7	31.5	19.9	5.9	25.2	17.6	7.9	21.9
Fast travel time	11.5	20.7	10.8	18.4	26.0	14.3	17.4	24.0	14.2
Transit unavailable	9.5	10.1	4.0	7.5	8.4	2.4	8.1	8.5	2.4
Schedule requirements	8.8	12.8	8.7	7.5	12.8	6.9	8.9	13.0	7.1
Household vehicle unavailable	4.3	0.4	9.0	2.7	0.4	6.9	3.4	0.4	5.1
Need to stop along work trip	3.8	4.3	2.0	7.1	7.6	6.1	7.9	10.2	6.4
Need car during work hours	1.5	10.7	4.7	3.5	8.6	4.1	5.1	8.5	4.3
Employer subsidizes commute	0.4	0.2	0.2	0.3	0.3	0.2	0.5	0.7	0.6
Environmental/energy factors	0.4	<0.1	0.1	2.1	0.2	0.7	2.6	0.3	3.8
Parking unavailable or expensive	0.2	0.1	1.5	0.4	0.1	2.5	0.7	0.1	5.8
Exercise/health	0.1	0.1	1.4	0.1	0.2	2.6	0.8	0.3	3.0
Other	2.1	1.1	1.0	1.1	0.9	0.6	1.0	0.9	0.5
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Sample Size (n)***	(503)	(1648)	(355)	(482)	(1587)	(340)	(477)	(1557)	(326)

*Others consist of 8% transit (including 0.3 buspool), 1.8% walk or bicycle, and 0.3% taxi. From Table 2-1, the overall mode split is 19.2% shared ride, 70.4% solo driver, and 10.4% other (as just defined).

**(a)=percentage of weighted responses with factor as first priority, (b)=average percentage of weighted responses with factor as first or second priority, (c)=average percentage of weighted responses with factor as first, second, or third priority.

***Sample size given for averages is that of priority with smallest sample size.

Source: 1982 Workplace Survey, weighted responses; percentages may not add to 100% because of rounding.

5.3.4.2 Use of Project Rideshare Assistance. Table 5-20 summarizes the use of ridesharing and transit assistance from Project Rideshare for current ridesharers, solo drivers, and others. From Table 5-10, this assistance consisted primarily of information on carpooling or vanpooling (33% of those familiar with Project Rideshare), transit information (10%), and carpool match lists (11%), but also included other assistance in forming a carpool or vanpool (4%). Up to 90% of the assistance was furnished through employers, which led to some uninterested employees receiving information simply because the employer was passing it out or to some marginally interested employees requesting matching assistance simply because the employer was behind it.

An estimated 8.5% of those receiving assistance used it to start pooling (based on a mode weighted average from Table 5-20a). Only 30% of those who started pooling are still pooling (9.7% of current ridesharers who received assistance), while most of those who quit are now transit users (34.7% of others). An estimated 6.4% of the current ridesharers who received assistance used the assistance to find replacement or additional members for their pools. Considering the small number of respondents (18) who started pooling, these results compare favorably with those from separate and much larger Project Rideshare surveys reported in Table 4-3. Of those currently pooling at the time of the surveys, 11% (fall 1981) or 22% (fall 1982) were influenced/helped to start pooling, and 10% (fall 1981) or 5% (fall 1982) were influenced/helped to continue pooling.

Perhaps as a result of employer-based distribution methods, most employees receiving assistance did nothing with the information (Table 5-20a). An estimated 57% of others (mostly current transit users), 77% of current ridesharers, and 93% of current solo drivers either did not use the information or filed it away for future use. An estimated 5% to 8% made some initial contacts with the list but did not start pooling with them. These results correlate to some degree with those in Table 4-2, which notes that commuters receiving match lists through employers were only two-thirds or less as likely to use them as commuters who contacted Project Rideshare on their own. Note that only one-third as many received match lists as received just information on carpooling and vanpooling, which had less utility than a match list and probably was totally unsolicited in many cases.

The estimated reasons why the information received from Project Rideshare was not used by current solo drivers included frequently incompatible schedules (35%), needing a car for work (23%), not interested (16%), or persons living or working too far away (16%) (Table 5-20b). The reasons for current ridesharers (who obviously began ridesharing some way other than Project Rideshare assistance) included not interested

TABLE 5-20. EMPLOYEES' USE OF PROJECT RIDESHARE ASSISTANCE BY CURRENT COMMUTE MODE

	Employees Receiving Assistance			
	RIDE-SHARERS (26%)	SOLO DRIVERS (58%)	OTHERS** (16%)	SAMPLE SIZES
a. HOW RESPONDENTS USED PROJECT RIDESHARE ASSISTANCE RECEIVED*				
Started pooling	9.7%	0.8%	34.7%	18
Helped find pool replacements of new members	6.4	0.8	0	8
Made some initial contacts off list	6.9	5.2	7.9	24
Filed away for future use	31.0	22.6	30.7	90
Did not use	45.9	70.6	26.7	161
TOTAL	100.0%	100.0%	100.0%	301
b. WHY ASSISTANCE WAS NOT USED	Employees Not Using Assistance			
	(21%)	(71%)	(8%)	
Made own arrangements	6.3%	4.4%	9.1%	10
People lived/worked too far away	0	15.6	4.4	13
Incompatible schedules	18.2	34.6	0	24
Already pooling	17.3	1.5	0	8
Not interested	56.2	15.6	70.1	36
Dislike bus	0	3.9	0	5
Need car for work	0	22.6	16.4	4
Other reasons	2.0	1.8	0	5
	100.0%	100.0%	100.0%	105
c. WHY RESPONDENTS DID NOT START TO POOL WITH THE PERSONS THEY CONTACTED FROM THEIR MATCHLISTS	Matchlist Receivers Who Did Not Start to Pool With Persons They Contacted			
	(38%)	(27%)	(35%)	
People lived too far away	53.8%	50.1%	0	6
People worked too far away	0	7.4	0	1
Incompatible schedules	0	42.5	100	6
Couldn't pool every day	26.1	0	0	1
No car available	20.1	0	0	1
	100.0%	100.0%	100.0%	15

*Multiple responses permitted; percentages are based on total number of responses and may not sum to 100% because of rounding.
**Others are mostly transit users; see Table 5-19 for breakdown.

Source: 1982 Workplace Survey; weighted responses.

(56%), incompatible schedules (18%), or already pooling (17%). An estimated 6% had made their own arrangements for pooling. Only one respondent (in the raw sample) noted that the match list was received too late, indicating that match lists are being furnished in a timely enough fashion not to cause complaint.

Finally, Table 5-20c tabulates the reasons why persons contacted those on their match lists but did not start to pool with them. Sample sizes are too small to do more than note that people living too far away and incompatible schedules constituted the most frequent reasons.

In summary, about 9% of those receiving ridesharing assistance from Project Rideshare used it to start pooling. Over 80% did not use the assistance. Part of the reason was conflicts with schedules and commute routes, but the passive employer-based information distribution system encountered by most recipients probably led to unsolicited information and token requests for matching or other assistance. At least 40% did not appear to be interested in ridesharing at all, based on responses of no interest and needing a car during working hours. That is, except to comply with a survey request, there seems to be little reason that an employee would fill out a ridesharing application if needing a car during working hours would prevent ridesharing.

5.3.5 Characteristics of Ridesharers, Solo Drivers, and Others

This last section of Chapter 5 contrasts selected characteristics of ridesharers, solo drivers, and others (mostly transit users). Table 5-21 shows the breakdown by sex, age, ethnicity, possession of a driver's license, and household income for ridesharers, solo drivers, and others. Ridesharers and others are more likely to be female--57% and 54% compared with 45% for nonridesharers. More ridesharers than solo drivers are under 20. In contrast to both ridesharers and solo drivers, the age distribution of others includes both more young and old.

Blacks constitute the only significant nonwhite ethnic group in the survey population and make up similar proportions among ridesharers and solo drivers, an estimated 3%. In contrast, blacks constitute an estimated 19% of the mostly transit-riding "others".

There were statistically significant differences between the proportions of ridesharers, solo drivers, and others having a driver's license. The highest proportion was among solo drivers (99.7%), with ridesharers falling between solo drivers and others. There are some slight income differences between ridesharers and solo drivers, with ridesharers clustering more in the middle income ranges than solo drivers. In contrast,

TABLE 5-21. DEMOGRAPHIC CHARACTERISTICS OF RIDESHARERS, SOLO DRIVERS, AND OTHERS

	RIDESHARERS	SOLO DRIVERS	OTHERS
SEX			
Male	42.7%	55.8%	45.6%
Female	57.3	44.2	54.4
	100.0%	100.0%	100.0%
AGE			
Under 20 years	6.1%	2.6%	7.2%
20-24	15.1	15.5	18.8
25-34	31.1	37.8	34.2
35-44	24.4	20.7	11.9
45-54	15.5	13.0	10.0
55-64	6.4	8.8	15.6
65 and over	0.3	1.6	2.2
	100.0%	100.0%	100.0%
ETHNICITY			
White	96.9%	96.2%	80.6%
Black	3.0	3.4	19.0
Spanish-surname	0	0.1	0
Asian	0.1	0.1	0.4
Native American	0	0.1	0
Other	0	0.1	0
	100.0%	100.0%	100.0%
DRIVER'S LICENSE			
Yes	95.6%	99.7%	90.8%
No	4.4	0.3	9.2
	100.0%	100.0%	100.0%
HOUSEHOLD INCOME			
Less than $10,000	4.4%	6.4%	23.8%
$10,000-$14,999	10.9	12.7	13.6
$15,000-$19,999	12.2	14.4	19.8
$20,000-$24,999	17.2	15.5	13.8
$25,000-$34,000	31.0	23.5	13.1
$35,000-$44,999	11.3	14.4	9.6
$45,000 or more	12.8	13.1	6.3
	100.0%	100.0%	100.0%
APPROXIMATE SAMPLE SIZES	480	1,580	340

Source: 1982 Workplace Survey, weighted data. Percentages may not add to 100% because of rounding.

transit users had much lower incomes, with more (37%) having incomes under $15,000.

Work-related characteristics of ridesharers, solo drivers, and others are described in Table 5-22. As might be expected, a higher percentage of ridesharers work full-time compared with solo drivers, 94% compared with 90%. Full-time "others" were fewer yet (84%), with all of these differences being statistically significant. More ridesharers have fixed hours set by their employer, 77% compared wih 71% for solo drivers. About 6% of ridesharers have variable hours that require starting at the same time each day compared with 8% for solo drivers. More ridesharers than solo drivers can vary their start time, 13% compared with 6%, but fewer have irregular schedules, 4% to 13%. Others have very similar work schedules compared with solo drivers.

In terms of occupation, ridesharers have significantly higher percentages in clerical jobs (34% compared with 23% for solo drivers) and fewer in crafts, service, managerial, and transportation compared with solo drivers. A similar statement could be made comparing ridesharers with others, except that there are fewer manager among the others. Additionally, others include significantly more service workers, 15% compared with 10% for solo drivers and 4% for ridesharers.

TABLE 5-22. WORK-RELATED CHARACTERISTICS OF RIDESHARERS, SOLO DRIVERS, AND OTHERS

	RIDESHARERS	SOLO DRIVERS	OTHERS
FULL OR PART-TIME			
Full-time	93.8%	90.3%	83.6%
Part-time	6.2	9.7	16.4
	100.0%	100.0%	100.0%
WORK SCHEDULE			
Fixed-employer sets hours	77.1%	70.8%	72.3%
Variable-start same each day	5.6	8.1	8.8
Variable-vary start time	13.3	6.0	4.4
Irregular	3.6	13.1	12.0
Rotating shift	0.4	1.5	1.9
Other	0	0.5	0.5
	100.0%	100.0%	100.0%
OCCUPATION			
Sales	8.4%	8.4%	9.6%
Clerical	33.9	23.3	26.8
Production	11.7	9.3	11.8
Craftsman	3.7	5.3	7.8
Service	4.3	9.5	15.0
Professional	24.8	23.7	19.3
Manager	10.6	16.5	6.9
Transportation	0.3	1.1	1.3
Other	2.2	2.8	1.5
	100.0%	100.0%	100.0%
APPROXIMATE SAMPLE SIZES	520	1,720	360

Source: 1982 Workplace Survey, weighted results. Percentages may not add to 100% because of rounding.

6. CONCLUSIONS AND TRANSFERABLE IMPLICATIONS

This final chapter presents the case study conclusions and transferable implications of the Cincinnati Ridesharing Demonstration.

6.1 CASE STUDY CONCLUSIONS

Contrasting conclusions could be drawn from the two sets of data analyzed for this report. On one hand, the discussion in Chapter 4, based on project records and surveys that led to the high benefit/cost ratio and efficiency estimates, suggests that Project Rideshare achieved quite cost-effective and reasonable results compared with other public ridesharing programs. On the other hand, the workplace survey (described in Chapter 5) led to the low estimates and suggests that little or nothing was accomplished in the region by either Project Rideshare or employer-based ridesharing promotion.

The best way to resolve the two views is to draw conclusions by averaging the efficiency measures and benefit/cost ratios produced by the high and low outcome estimates. The average benefit/cost ratio of 3 is more than many, but not all of the ratios that have been used to justify transportation projects in the past. However, the average and the the low cost estimates did not obtain the service objectives. The high estimate of project outcome did meet the objective of reducing total personal vehicle operating cost expenditures by more than $2.88 million or five times the two year cost of the area ridesharing program. Other conclusions are presented below:

1. The marketing strategy of approaching the larger firms in the region efficiently used Project Rideshare resources to contact commuters and encourage ridesharing.

2. The carpool placement rates and measures of cost effectiveness indicate that Project Rideshare carpool promotion achieved reasonable results compared with other public transportation programs. It is not known if increased funding would lead to proportional results on a micro level and measurable results on a regional level.

3. Community-based ridesharing is not a cost-effective technique in the Cincinnati area, despite high community cohesion and identity.

4. Based on the Greater Cincinnati surveys administered in 1980 and 1982, awareness of where to find ridesharing information went up from 12% of respondents in 1980 to 43% in 1982, a dramatic increase probably attributable to the demonstration project.

5. Funding difficulties caused slow implementation of third-party vanpooling during the demonstration. However, the concept may have potential for the future and will benefit from the resolution of institutional difficulties accomplished by the project.

6. Although Project Rideshare did not rely on the OKI Regional Council of Governments for name recognition, the staff felt that the skill of the OKI COG in coordinating planning and its regional recognition were important factors in reducing institutional problems experienced in marketing ridesharing to a three-state area.

7. Even though a reasonable percentage of employers contacted by Project Rideshare started ridesharing programs, analysis of both project records and the workplace survey showed that the role of Project Rideshare in generating effective new employer programs is not clear.

8. Although the amount of ridesharing increases with employee exposure to Project Rideshare and employer-based promotion, the strongest association is with increasing employer size. Additionally, most ridesharing in the OKI region is the consequence of economic and convenience factors that appear to have nothing to do with ridesharing promotion from either Project Rideshare or employers.

6.2 TRANSFERABLE IMPLICATIONS

There are two transferable implications of the Cincinnati demonstration.

1. The use of a planning agency that is recognized as the leading transportation coordinator in the area appears to be a useful strategy for implementing a multi-state ridesharing program.

2. Ridesharing promotion focused through the largest employers in an area appears to be a good strategy for reaching a large proportion of regional employees efficiently. The efficiency of contact must be balanced against the tendency for a higher proportion employees in larger firms to form ridesharing arrangments on their own compared with smaller firms.

A limitation on transferability for the first point might arise if there were rivalries with other agencies who desired to lead the demonstration or if the employers of an area were not receptive to planning agencies.

APPENDIX A. WORKPLACE SURVEY DESIGN AND METHODOLOGY

WORKPLACE SURVEY

TSC designed the workplace survey instruments and sampling procedures to ensure comparability among the five demonstration sites implementing the survey. Under the terms of the demonstration grant, Project Rideshare was responsible for administering the workplace survey. Crain & Associates provided technical assistance in implementing the survey procedures.

The Cincinnati workplace survey was administered during April and May 1982 to a stratified sample of firms drawn from the Dunn & Bradstreet listing of area employers. Project Rideshare purchased the total listing for firms of 100 or more employees and a sample listing of firms with fewer employees. Sample quotas were drawn randomly from the four employer size categories. The largest (500+) category was small enough that all firms were asked to participate to ensure adequate sample sizes. The firms to be sampled were checked to ensure a cross-section of varying degrees of contact with Project Rideshare.

The TSC sampling design included fixed quotas of employees to be surveyed among the larger two size categories. All of the employees of firms employing 99 or fewer were to be surveyed. For firms of 20 or more, half of all employees surveyed received a post card asking about commute mode (to check bias), while the other half received the complete employee survey. All employees of the firms with less than 20 employees received the long survey. Each participating employer was asked to fill out the employer profile.

Temporary employees were hired by Project Rideshare to perform the survey. Cooperation was gained from the necessary quotas of employers via contact by mail and telephone. Questionnaires were passed to employees with employer assistance.

Table A-1 presents the sampling strata and questionnaire totals. For all strata, a total of 190 employer profiles and 2,723 employee questionnaires were received, but only 176 employer profiles and 2,540 employee questionnaires could be grouped by employer size because of missing data.

TABLE A-1. WORKPLACE SURVEY SAMPLE DESIGN AND SIZES

Employer Size Category	Total Number of Firms	Target Sample Number of Firms	Total Number of Employees*	Target Number of Employees at Sampled Firms	Target Sampled Number of Employees at Sampled Firms	Share of Sampled Employees Who Receive Long Form Surveys	Target Total Number of Long Form Surveys Distributed	Target Total Number of Surveys Distributed	Sample Sizes Obtained** Firms	Employees
500+	107	71	97,000	64,400	60	50%	2,130	4,260	47	1,003
100-499	630	58	138,000	12,600	40	50%	1,160	2,320	44	698
20-99	3,300	44	147,000	1,980	all	50%	990	1,980	39	563
1-19	22,300	67	123,000	369	all	all	369	369	46	276
Totals	26,337	240	505,000*	79,349			4,649	8,929	176	2,540
(Missing)***									(14)	(183)

*The distribution of employees by employer size produced by the weighted workplace survey employee files was:

500+	117,859
100-499	130,394
20-99	151,667
1-19	175,850
	575,778

**Sample size for firms includes those responding with either long or short forms; sample size for employees is based on long forms only.

***Missing form size breakdown because of missing or incomplete employer profile.

DATA ADJUSTMENTS

In order to draw conclusions about employers and employees throughout the metropolitan area, one must weight each response inversely to the sample proportions within employer size categories. Weights are determined by the actual number of responses received, not the initial sampling rates. Accordingly, the employer responses were weighted inversely to the proportion responding in each size category of the regional firms in that category.

Employee responses received two additional weightings. The first was to correct for response or sampling proportions within each employer. The second was to correct for any response bias by commute mode as compared with the post card commute mode distribution.

Statistical significance testing was not a focus of the case study level analysis. In general, comparisons that are presented as statistically significant were checked at the 95% level based on the raw sample sizes. Because of the weighting, there would generally be an increase in variance for the weighted proportions discussed in the report.

WORKPLACE EMPLOYEE QUESTIONNAIRE

This travel survey from the University of Cincinnati will be used by local transportation agencies to improve travel conditions in the Cincinnati area. Please answer the following questions as accurately as possible. Your responses will be strictly confidential.

serial 1-5

card no. 1 — 6

1. How do you most often commute to and from work? (Check all that apply if you usually use a combination of means to make a one-way trip)

7-1 ☐ Drive alone
8-1 ☐ Drive or ride with one or more other people
9-1 ☐ Public express bus
10-1 ☐ Public local bus
12-1 ☐ Private or employer-sponsored bus
13-1 ☐ Taxi
14-1 ☐ Motorcycle or bicycle
15-1 ☐ Walk
16-1 ☐ Other (specify) _____

17

2. Please number in order of importance the three most important factors which influence how you most often commute to and from work.
(1=most important, 2=second most important, 3=third most important)

18 ___ Low cost
19 ___ Fast travel time
20 ___ Convenience
21 ___ Schedule requirements
22 ___ Household vehicle unavailable
23 ___ Transit unavailable
24 ___ Parking unavailable or too expensive at workplace
25 ___ Need car during working hours
26 ___ Need to make stops on the way to or from work
27 ___ Employer provides subsidy for commuting (e.g., free parking or discounted transit pass)
28 ___ Exercise, health, like to walk
29 ___ Environmental concern, energy conservation
30 ___ Other (specify)_____

31

3. Thinking back over the last five days you worked (excluding today), please indicate how many times you used each of the following means to travel to and from work.

	To Work	From Work
Drove alone	35___ days	36___ days
Drove or rode with one or more other people	37___ days	38___ days
Public express bus	39___ days	40___ days
Public local bus	41___ days	42___ days
Private or employer-sponsored buspool	43___ days	44___ days
Taxi	45___ days	46___ days
Motorcycle or bicycle	47___ days	48___ days
Walked	49___ days	50___ days
Used combination of above (specify)_____	51___ days	52___ days
Other (specify)_____	53___ days	54___ days

55

4. What is your home zip code? 59 _____

57

5. How many miles is it from your home to your place of work? _____

64

6A. How long does it take to travel from your home to your place of work during commuting hours if you drive by the most direct route without any stops?

_____ minutes

67

6B. How long does it take to travel from your home to your place of work during commuting hours if you use the public bus system? (including the time you spend walking or driving to and from the bus)

73-1 ☐ _____ minutes
-2 ☐ Don't know
-3 ☐ No public bus is available between my home and my place of work

70

7. Do you work full-time or part-time?

☐ 74-1 Full-time ____ 75 days per week ☐ 74-2 Part-time ____ 75 days per week

8. Which of the following best describes your work schedule? (Check one)

7-1 ☐ I have fixed work hours which are set by my employer
-2 ☐ I can choose my own work schedule, but I must start work at the same time each day
-3 ☐ I can vary my start time each day by up to _____ minutes or _____ hours
-4 ☐ I have a very irregular work schedule
-5 ☐ I work a rotating shift
-6 ☐ Other (specify) _____

9. At what time do you most often... (ANSWER BOTH PARTS BELOW)

Begin work? 13 ____ 17-1 ☐ am -2 ☐ pm (Check one)

Leave work? 18 ____ 22-1 ☐ am -2 ☐ pm (Check one)

10. Do you have a valid driver's license? 23-1 ☐ Yes 23-2 ☐ No

11. How many vehicles (cars, vans, pick-up trucks, or motorcycles) in operating condition are available for use by members of your household? (including company cars)

24-1 ☐ 25 ____ vehicles
-2 ☐ None (SKIP TO QUESTION 16)

12. Please indicate for each vehicle: its year/make/model, its average fuel economy (miles per gallon), and the month and year you acquired it.

	Year/Make/Model	Average miles per gallon	Month/year acquired
Vehicle #1			
Vehicle #2			
Vehicle #3			
Vehicle #4			

13. Which vehicle do you use most often for your commute trip? (Check one)

74-1 ☐ Vehicle #1
-2 ☐ Vehicle #2
-3 ☐ Vehicle #3
74-4 ☐ Vehicle #4
-5 ☐ None -- I never drive to work

14. Within the past two years, has anyone in your household purchased a vehicle?

75-1 ☐ Yes
-2 ☐ No (SKIP TO QUESTION 16)

15. Was this a replacement for another household vehicle?

7-1 ☐ Yes What was the year/make/model and average miles per gallon of the vehicle which was replaced?
_____ _____ mpg

-2 ☐ No

16. In this survey, "carpool" means two or more people (including family members) who commute together on a regular basis in a car, van, or pick-up truck. This includes vanpools. Are you currently a member of a carpool?

16-1 ☐ Yes
-2 ☐ No (SKIP TO PAGE 5)

serial 1-5 | 2 | card no. 6

8

11

serial 1-5 | 3 | 6

8

PLEASE ANSWER THE QUESTIONS ON THIS PAGE ONLY IF YOU ARE CURRENTLY A MEMBER OF A CARPOOL -- THAT IS, IF YOU ANSWERED "YES" TO QUESTION 16. OTHERWISE, PLEASE SKIP TO PAGE 5.

17. How many people including yourself usually participate in your carpool even if they do not ride every day?

17[ ][ ] people

18. How many of the other people in your carpool... (ANSWER ALL FOUR PARTS BELOW)

Live in the same household as you?... 19[ ][ ] person(s)
Work for the same employer as you?... 21[ ][ ] person(s)
Work in the same location as you but for a different employer?..... 23[ ][ ] person(s)
Are male?..... 25[ ][ ] person(s)

19. How long have you been commuting with at least one other member of your carpool? _____ months or _____ years

27[ ]

20. Were any members of your carpool commuting together before you joined?

30-1[ ] No
-2[ ] Yes ——→ For how long before you joined? _____ months or _____ years

31[ ]

21. Please number in order of importance your three most important reasons for joining or forming a carpool. (1=most important, 2=second most important, 3=third most important)

34-[ ] I like to commute with family members
35-[ ] I prefer not having to drive all the time
36-[ ] Carpooling saves wear and tear on my auto
37-[ ] Carpooling is cheaper than driving alone or taking transit
38-[ ] I like company on the trip to work
39-[ ] My employer provides special parking privileges for carpools
40-[ ] Free or cheap downtown parking for carpools
41-[ ] Information or assistance from the Project Rideshare Program
42-[ ] More convenient than the public bus system
43-[ ] Faster than the public bus system
44-[ ] Convenience to other carpool members
45-[ ] Other (specify)_____

46[ ]

22. How did you join or form your carpool? (Check as many as apply)

48-1[ ] Household members decided to commute together
49-1[ ] Advertisement in local newspaper
50-1[ ] Company newsletter or bulletin board
51-1[ ] Company matching program
52-1[ ] Information or assistance from the Project Rideshare Program
53-1[ ] Informal contact with someone at work
54-1[ ] Informal contact with someone in my neighborhood
55-1[ ] Other (specify)_____

56[ ]

23. Does your carpool make use of any of the following? (Answer yes or no for each item)

	Yes	No	
58-	1[ ]	-2[ ]	Preferential parking spaces for carpools
59-	1[ ]	-2[ ]	Reduced parking rates for carpools
60-	1[ ]	-2[ ]	Employer vans
61-	1[ ]	-2[ ]	Reserved freeway lanes
62-	1[ ]	-2[ ]	Park and ride lots
63-	1[ ]	-2[ ]	Other (specify) _____

64[ ]

24. Which of the following best describes your carpool arrangement? (Check one)

66-1[ ] One person drives all the time
-2[ ] Driving is shared by all carpool members
-3[ ] Driving is shared by some carpool members

THIS PAGE FOR CARPOOL MEMBERS ONLY

25. How often are you the driver of your carpool? (Check one)

67-1 ☐ Always (ANSWER QUESTIONS IN COLUMN A ONLY)
2 ☐ Sometimes, _____ days per week (ANSWER QUESTIONS IN COLUMNS A AND B)
3 ☐ Sometimes, every _____ days (ANSWER QUESTIONS IN COLUMNS A AND B)
4 ☐ Sometimes, every _____ weeks (ANSWER QUESTIONS IN COLUMNS A AND B)
5 ☐ Never (ANSWER QUESTIONS IN COLUMN B ONLY)

68

serial 1-5
4 card no. 6

COLUMN A

THE FOLLOWING QUESTIONS APPLY TO YOUR TRIP TO WORK WHEN YOU DRIVE THE OTHER MEMBERS OF YOUR CARPOOL. PLEASE SKIP TO COLUMN B IF YOU NEVER ARE THE DRIVER.

A1. What vehicle do you most often use when you drive others? (Indicate year/make/model)

_____ 7

A2. How many passengers are usually picked up at your home (including family members)? _____ 8

A3. How many stops do you usually make to pick up passengers?

10-1 ☐ None

10-2 ☐ One
→ How far is it from your home to this pick-up point? _____ miles 11

10-3 ☐ Two or more (ANSWER BOTH QUESTIONS BELOW)
→ How far is it from your home to the first pick-up point? _____ miles 14
→ How far is it from the first to last pick-up point? _____ miles 17

A4. Do you drive directly to your parking place at work or do you stop to drop off passengers?

20-1 ☐ Drive directly to parking place at work
→ How far is it from the place where the last passenger is picked up (which may be your home) to your parking place?
_____ miles 21

20-2 ☐ Stop to drop off passengers (ANSWER ALL FOUR QUESTIONS BELOW)
→ How many stops do you usually make (excluding your parking place)?
_____ stops 24
→ How many passengers are usually dropped off before you park your vehicle?
_____ passengers 26
→ How far is it from the place where the last passenger is picked up (which may be your home) to the first drop-off point?
_____ miles 28
→ How far is it from the first drop-off point to your parking place?
_____ miles 31

NOW ANSWER QUESTIONS IN COLUMN B ABOUT YOUR TRIP TO WORK AS A CARPOOL PASSENGER.
SKIP TO PAGE 5 IF YOU NEVER ARE A PASSENGER.

COLUMN B

THE FOLLOWING QUESTIONS APPLY TO YOUR TRIP TO WORK WHEN YOU ARE A PASSENGER IN YOUR CARPOOL. PLEASE SKIP TO PAGE 5 IF YOU NEVER ARE A PASSENGER.

B1. Where are you usually picked up in the morning?

34-1 ☐ At home
-2 ☐ At some other meeting place (ANSWER BOTH QUESTIONS BELOW)
→ How far is it from your home to the meeting place? _____ miles 35
→ How do you travel to the meeting place?
38-1 ☐ Auto 38-2 ☐ Other means

B2. How many passengers are usually picked up at the same place as you (excluding yourself and the driver)?

39-1 ☐ None
-2 ☐ _____ passengers are picked up at the same place as I am 40

B3. How many passengers are usually picked up after you?

42-1 ☐ None
-2 ☐ _____ passengers are picked up after me
at _____ different locations 43 45

B4. How many passengers are usually dropped off before you?

47-1 ☐ None
-2 ☐ _____ passengers are dropped off before me
at _____ different locations 48 50

B5. Where are you usually dropped off in the morning?

52-1 ☐ At work
-2 ☐ Other (specify) _____ 53

B6. How many passengers are usually dropped off at the same place as you (excluding yourself and the driver)?

_____ passengers 55

B7. How far is it from the place where you are picked up to the place where you are dropped off?

_____ miles 57

B8. Is the vehicle left at home when you are a carpool passenger driven by others in your household while you are at work? (Check one)

60-1 ☐ There is no extra vehicle left at home as a result of my carpooling
-2 ☐ No, the vehicle is not driven by others
-3 ☐ Yes, for fewer miles than I would have driven it
-4 ☐ Yes, for more miles than I would have driven it
-5 ☐ Yes, for about the same number of miles as I would have driven it

THE QUESTIONS ON THIS PAGE SHOULD BE ANSWERED BY EVERYONE

26. Were you living in the Cincinnati metropolitan area two years ago?

61-1 ☐ Yes
-2 ☐ No (SKIP TO QUESTION 29)

27. Were you working two years ago? (Check one)

62-1 ☐ Yes, full-time
-2 ☐ Yes, part-time
-3 ☐ No (SKIP TO PAGE 6)

28. At that time, were you... (ANSWER EACH QUESTION BELOW)

	Yes	No
Working for the same employer as now?	63-1 ☐	-2 ☐
Working at the same location as now?	64-1 ☐	-2 ☐
Residing in the same location as now?	65-1 ☐	-2 ☐

29. If you worked or lived in a different location, how many miles was it from your home to your place of work? _____ miles

66

30. How did you most often travel to and from work two years ago? (Check all that apply if you usually used a combination of means to make a one-way trip)

69-1 ☐ Drove alone
70-1 ☐ Drove or rode with one or more other people
71-1 ☐ Public express bus
72-1 ☐ Public local bus
73-1 ☐ Private or employer-sponsored buspool
74-1 ☐ Motorcycle or bicycle
75-1 ☐ Walked
76-1 ☐ Other (specify) _____
77-1 ☐ Not applicable -- I was not working two years ago (SKIP TO PAGE 6)

78

31. Approximately how many days per week did you... (ANSWER BOTH PARTS BELOW)

Travel to work by the means checked above? 7[ ] days
Travel from work by the means checked above? 8[ ] days

serial 1-5

5 card no. 6

32. If you drove alone or drove with other people, what vehicle did you most often drive?
(Specify year/make/model) _____

9

IF YOU WERE NOT IN A CARPOOL TWO YEARS AGO, PLEASE SKIP TO PAGE 6.

33. How many people were in your carpool two years ago (including yourself)?

15

34. How many of the other members of your carpool... (ANSWER ALL THREE PARTS BELOW)

Lived in the same household as you? 17[ ] person(s)
Worked for the same employer as you? 19[ ] person(s)
Worked in the same location as you but for a different employer? 21[ ] person(s)

35. How often were you the driver of your carpool? (Check one)

23-1 ☐ All the time
-2 ☐ Some of the time, _____ days per week
-3 ☐ Some of the time, every _____ days
-4 ☐ Some of the time, every _____ weeks
-5 ☐ Never

24

36. What was the average fuel economy of all the vehicles used by your carpool?

[ ] miles per gallon
26

THE QUESTIONS ON THIS PAGE SHOULD BE ANSWERED BY EVERYONE

37. Are you familiar with the activities of the Project Rideshare Program?

28-1 ☐ Yes
-2 ☐ No (SKIP TO QUESTION 40)

38. Have you received any of the following from the Project Rideshare Program? (Answer yes or no for each item)

	Yes	No	
30-	1 ☐	2 ☐	Information on carpooling or vanpooling
31-	1 ☐	2 ☐	Public bus system route and schedule information
32-	1 ☐	2 ☐	List of people with whom I could carpool or vanpool
33-	1 ☐	2 ☐	Assistance in forming or joining a carpool or vanpool
34-	1 ☐	2 ☐	Other (specify) _____

35 ☐

39. If you received any of the above, how did you use it? (Check as many as apply)

37-1 ☐ This information helped me start carpooling or vanpooling
38-1 ☐ This information helped me find replacement or additional members for my carpool or vanpool
39-1 ☐ I contacted people on the list but did not start carpooling or vanpooling with any of them
Why not? _____
_____

42 ☐

40-1 ☐ I filed this information away for future use
41-1 ☐ I did not use this information
Why not? _____
_____

44 ☐

40. What is your occupation? (Check one)

46-1 ☐ Salesperson
-2 ☐ Clerical/office worker
-3 ☐ Shop/production worker
-4 ☐ Craftsman or foreman
46-5 ☐ Service worker
-6 ☐ Professional/technical
-7 ☐ Manager/administrator
-8 ☐ Transportation/driver
-9 ☐ Other (specify) _____

47 ☐

41. During the past 12 months, how many days did you not go to your usual place of work for each of the following reasons (excluding holidays)?

Illness 49[ ][ ] days
Vacation 51[ ][ ] days
Personal leave 53[ ][ ] days
Out-of-town business 55[ ][ ] days

42. Are you... 57-1 ☐ Male 57-2 ☐ Female

43. What is your age? 58[ ][ ] years

44. To which of the following ethnic groups do you belong? (Check one)

60-1 ☐ White
-2 ☐ Black
60-3 ☐ Spanish-surnamed
-4 ☐ Other (specify) _____

61 ☐

45. How many people live in your household including yourself? 62[ ][ ]

46. Including yourself, how many people in your household are...(ANSWER BOTH PARTS)

Employed full-time or part-time? 64[ ][ ]
Licensed to drive? 66[ ][ ]

47. In what range is your annual household income? (Check one)

68-1 ☐ Less than $5,000
-2 ☐ $5,000 - $9,999
-3 ☐ $10,000 - $14,999
-4 ☐ $15,000 - $19,999
-5 ☐ $20,000 - $24,999
68-6 ☐ $25,000 - $34,999
-7 ☐ $35,000 - $44,999
-8 ☐ $45,000 - $54,999
-9 ☐ $55,000 - $74,999
-0 ☐ $75,000 and over

48. Please indicate today's date _____, 1982

69 ☐

THANK YOU VERY MUCH FOR YOUR COOPERATION.

EMPLOYER PROFILE

[MAILING LABEL]

Please correct the label if necessary.

serial no. 1-4

1 card no. 5

Name, Title, and Department of Person Filling Out This Form

Name _____ Title _____

Department _____ Telephone _____ Ext. _____

SECTION A - INFORMATION ABOUT YOUR ORGANIZATION

1. Which of the following best describes your organization? (Check one)

6-01 ☐ Manufacturing
-02 ☐ Retail trade
-03 ☐ Wholesale or supplier
-04 ☐ Financial services -- e.g., bank, insurance, real estate
-05 ☐ Legal services
-06 ☐ Business services -- e.g., advertising, consulting, data processing
-07 ☐ Other commercial services -- e.g., hotel, laundry, repair
-08 ☐ Health and social services
-09 ☐ Transportation, communications, or utility
-10 ☐ Educational institution
-11 ☐ Government
-12 ☐ Military
-13 ☐ Other (specify) _____

8 ☐

2. How long has your organization been in existence? ___ (9) years or ___ (11) months

3. How long has your organization been at this location? ___ (13) years or ___ (15) months

4. Is this location your organization's headquarters? 17-1 ☐ Yes 17-2 ☐ No

5. What is the approximate gross floor area at this location? ___ (18-24) sq. ft.

6. What is the total land area at this location? _____ sq. ft. or _____ acres

25-31

7. How many employees does your organization have at this location? ___ (32-36)

8. Approximately how many of these employees are new to your organization since one year ago?

___ (37-41)

9. Does your organization have any other work locations (divisions, plants, offices, etc.) in the Cincinnati metropolitan area in addition to this location?

42-1 ☐ Yes
→ How many other work locations? ___ (43)
→ How many employees does your organization have at these other work locations? ___ (45-49)

-2 ☐ No

10. Please indicate the number of employees at this location who are in each of the following categories.

	Number of Employees		Number of Employees
Salesperson	6–10	Service worker	26–30
Clerical/office worker	11–15	Professional/technical	31–35
Shop/production worker	16–20	Manager/administrator	36–40
Craftsman or foreman	21–25	Transportation/driver	41–45

Other (specify) _____

11. What percentage of employees at this location are...

Temporary or seasonal? ___ % (46)

Part-time? ___ % (49)

Female? ___ % (52)

12. Are employees at this location permitted to vary their work start times?

55-1 ☐ Yes — Please specify any restrictions on eligibility _____

_____

55-2 ☐ No

13. Are there multiple work shifts and/or staggered start times at this location?

58-1 ☐ No

-2 ☐ Yes, there are multiple shifts
- How many shifts are there? 59___
- How many employees are assigned to the largest shift? 60–64

-3 ☐ Yes, there are staggered start times

SECTION B - INFORMATION ABOUT PARKING

14. How many parking spaces does your organization furnish for employees working at this location?

65-1 ☐ None — we furnish no employee parking (SKIP TO QUESTION 19)

-2 ☐ We furnish ___ spaces (66–70)

15. Of these parking spaces, how many are leased by your organization?

___ (6) spaces leased at an average cost of $___ (10) per space per month

16. How much do you charge employees for parking? $___ (14) per space per month

17. Are all employees eligible for these spaces?

18-1 ☐ Yes

-2 ☐ No — Please specify restrictions and number of employees eligible

_____

18. What is the annual cost of maintaining your parking facilities? $___ (26–32)

19. Is there free parking within 1/4 mile of your location? 33-1 ☐ Yes 33-2 ☐ No

20. Is there paid parking within 1/4 mile of your location?

34-1 ☐ Yes

What type(s)? (Check all that apply)
- 35-1 ☐ On-street, metered
- 36-1 ☐ Off-street, indoor
- 37-1 ☐ Off-street, outdoor

What is the average rate for off-street parking?
- $___ (38) per space per day or
- $___ (42) per space per month

34-2 ☐ No

serial 1–4 | 2 | card no. 5

56

serial 1–4 | 3 | card no. 5

19 | 21–25

21. At the present time, does your organization do any of the following? (Please answer yes or no for each item)

	Yes	No	
46-1	☐	-2 ☐	Provide employees with information on commuting options (e.g., bus routes and schedules)
47-1	☐	-2 ☐	Allow employees to use company cars for commuting
48-1	☐	-2 ☐	Provide or contract for bus service to transport employees to and from work
49-1	☐	-2 ☐	Sell or provide bus passes to employees
50-1	☐	-2 ☐	Assist employees in forming or joining carpools/vanpools
51-1	☐	-2 ☐	Provide special incentives to employees who carpool
52-1	☐	-2 ☐	Provide vans which are used by employee vanpool groups
53-1	☐	-2 ☐	Other (specify) _____

54

If you checked yes to any of the above, please complete the rest of this section. You need only answer those questions pertaining to particular activities in which your organization is currently involved.

If you checked no to all of the above, please skip to Page 5, Section D.

22. For what reason(s) did your organization begin its involvement with employee transportation to and from work? (Check all that apply)

- 56-1 ☐ To reduce parking requirements and costs
- 57-1 ☐ In response to fuel shortage
- 58-1 ☐ To improve competitive standing in the labor market
- 59-1 ☐ To make possible a move to this location
- 60-1 ☐ To allow expansion of facilities at this location
- 61-1 ☐ To provide an additional employee fringe benefit
- 62-1 ☐ In response to employee requests
- 63-1 ☐ To comply with local zoning or other government requirements
- 64-1 ☐ Other (specify) _____

65

23. If you allow employees to use company cars for commuting...

a. How many cars are used for this purpose? ____ (67)

b. Do you charge employees for these cars?

70-1 ☐ Yes How much? ____ (71) cents per mile or $____ (73) per month

70-2 ☐ No

serial 1-4

4 card no. 5

24. If you provide or contract for bus service to transport employees to and from work...

a. Approximately when did your organization begin providing this bus service? _____ month/year

6

b. Do you contract for this service? 10-1 ☐ Yes 10-2 ☐ No

c. How many buses are operated each day? ____ (11)

d. What is the total monthly cost of providing this service? $____ (13–17)

e. How many employees use this service? ____ (18)

f. What is the total monthly amount collected in fares from employees who use this service? $____ (22–26)

25. If your organization sells or provides bus passes to employees...

a. How many passes are sold or provided in an average month? _____

b. Does your organization subsidize employees' purchase of bus passes?

31-1 ☐ Yes
→ How much is the subsidy? $ [32] or [35] % of purchase price
-2 ☐ No

26. If your organization assists employees in forming or joining carpools/vanpools...

a. Which of the following activities has your organization undertaken? (Check all that apply)

38-1 ☐ Distribution of brochures on carpooling/vanpooling
39-1 ☐ Display of carpool/vanpool posters
40-1 ☐ Official encouragement of carpooling/vanpooling by management
41-1 ☐ In-house matching service — Please describe briefly _____
_____
42-1 ☐ Matching service performed by the Project Rideshare Program
43-1 ☐ Employee get-togethers to facilitate carpool/vanpool formation
44-1 ☐ Other (specify) _____

b. Approximately when did your organization begin providing this type of assistance?
_____ month/year

c. How many employees are assisted in an average month? [53]

d. Is there a particular office or individual(s) with responsibility for this function?

57-1 ☐ Yes
→ How many people are involved in these activities? [58]
→ Approximately how many person-hours per month are devoted to these activities? [60]
57-2 ☐ No

e. Approximately how much does your organization spend per month on these activities (including labor, supplies, overhead, and other expenses)?
$ [64] [68]

27. If your organization provides special incentives to employees who carpool or vanpool...

a. Which of the following incentives are offered? (Check all that apply)

69-1 ☐ Preferential or reserved parking
70-1 ☐ Free parking
→ How many pool groups get free parking? [74]
71-1 ☐ Reduced parking charge
→ How much is the reduced charge? $ [78] per space per month
→ How many pool groups pay a reduced parking charge? [6]
72-1 ☐ Monetary incentive
→ How much is the incentive, per month?
$ [10] per pool group or $ [15] per individual
→ How many pool groups or employees receive monetary incentives?
[16] pool groups or [20] employees
73-1 ☐ Other (specify) _____

b. Approximately when did your organization begin providing these incentives?
_____ month/year

c. Are there any eligibility requirements to qualify for these privileges?

29-1 ☐ Yes — Please describe _____
-2 ☐ No

[45] [47] [49] [24] [25] [30]

serial 1-4
5 card no. 5

28. If you provide vans for employee vanpool groups...

a. Approximately when did your organization begin providing vans?
_____ month/year

b. How many vans do you provide at present? ____ (35)

c. Of these, how many are leased? ____ (38) are leased at an average cost of $____ (41) per van per month

d. What is the total monthly amount collected from employees who use the vans you provide (excluding charges for personal use of the van)? $____ (44-48)

e. Is van maintenance performed in-house? 49-1 ☐ Yes 49-2 ☐ No

---

SECTION D - VIEWS ABOUT EMPLOYER-SPONSORED RIDESHARING PROGRAMS

Please answer all the questions in this section, whether or not you are currently involved in ridesharing activities.

29. What do you think are the three most important benefits or advantages of employer-sponsored efforts to promote carpooling and vanpooling among employees? Please place a "1" beside the most important benefit, "2" beside the second most important benefit, and "3" beside the third most important benefit.

50___ Relief of traffic congestion
51___ Energy conservation
52___ Improved image within the community
53___ Reduced parking requirements
54___ More parking for customers and visitors
55___ Able to expand facilities without moving or acquiring more land
56___ Effective fringe benefit to recruit/retain employees
57___ Able to hire people without autos and people who live farther away
58___ Improved competitive standing in the labor market
59___ Improved employee punctuality
60___ Reduced employee absenteeism
61___ Reduced overtime requirements
62___ Improved employee morale
63___ Other (specify) _____
_____

30. What do you think are the three most important barriers to or disadvantages of employer-sponsored efforts to promote ridesharing?
(1 = most important, 2 = second most important, 3 = third most important)

66___ Inappropriate employer role
67___ Difficult to initiate
68___ Few employees benefit
69___ Potential liability risks
70___ Insurance costly or unavailable
71___ Regulatory restrictions
72___ Potential complications involving labor negotiations
73___ High start-up costs
74___ High operating costs
75___ Large staff time requirements
76___ Employees who carpool work fewer hours
77___ Employees who carpool are unwilling to stay after hours
78___ Employees who carpool are less punctual
79___ Other (specify) _____
_____

serial 1-4
6 card no. 5

31. Please read the following list of employee fringe benefits and indicate for each item (a) whether you believe it is effective in attracting or retaining employees and (b) whether the benefit realized by employees is at least as large as the cost of the activity to the employer.

	Effective in attracting or retaining employees?		Benefit to employees at least as large as cost to employer?	
	Yes	No	Yes	No
Group health insurance	6-1 ☐	-2 ☐	20-1 ☐	-2 ☐
Free parking	7-1 ☐	-2 ☐	21-1 ☐	-2 ☐
Maternity leave	8-1 ☐	-2 ☐	22-1 ☐	-2 ☐
Life insurance	9-1 ☐	-2 ☐	23-1 ☐	-2 ☐
Company car	10-1 ☐	-2 ☐	24-1 ☐	-2 ☐
Paid vacation	11-1 ☐	-2 ☐	25-1 ☐	-2 ☐
Group dental insurance	12-1 ☐	-2 ☐	26-1 ☐	-2 ☐
Flexitime	13-1 ☐	-2 ☐	27-1 ☐	-2 ☐
Pension plan	14-1 ☐	-2 ☐	28-1 ☐	-2 ☐
Assistance in forming or expanding carpools	15-1 ☐	-2 ☐	29-1 ☐	-2 ☐
Employer-provided vans	16-1 ☐	-2 ☐	30-1 ☐	-2 ☐
Tuition assistance	17-1 ☐	-2 ☐	31-1 ☐	-2 ☐
On-site day care	18-1 ☐	-2 ☐	32-1 ☐	-2 ☐
Paid sick leave	19-1 ☐	-2 ☐	33-1 ☐	-2 ☐

32. Are you familiar with the activities of the Project Rideshare Program?

34-1 ☐ Yes
-2 ☐ No

33. Has your organization ever contacted or been contacted by the Project Rideshare Program?

35-1 ☐ Yes -- we contacted the Project Rideshare Program
-2 ☐ Yes -- we were contacted by the Project Rideshare Program
-3 ☐ No (SKIP QUESTIONS 34 AND 35)

34. Which of the following did you receive from the Project Rideshare Program? (Check all that apply)

36-1 ☐ Information on carpooling/vanpooling
37-1 ☐ Briefing on carpooling/vanpooling
38-1 ☐ Assistance in performing in-house matching
39-1 ☐ Employee match lists prepared by the Project Rideshare Program
40-1 ☐ Assistance in obtaining vans
41-1 ☐ Assistance in forming and operating vanpools
42-1 ☐ Other (specify) _____

☐ 43

35. Were you generally satisfied with the service your organization received from Project Rideshare Program?

45-1 ☐ Yes
-2 ☐ No - In what ways could the service be improved? _____

_____

☐ 46

THANK YOU VERY MUCH FOR YOUR COOPERATION. PLEASE USE THE SPACE BELOW FOR ANY COMMENTS

☐ 48

APPENDIX B.

DEMONSTRATION

PROMOTIONAL MATERIALS

Project: Rideshare

Discover Ridesharing... The Group Savings Plan

What is Project: Rideshare?

Project: Rideshare is a community-wide program to encourage gasoline conservation and cleaner air through carpools, vanpools, and the expanded use of public transportation. Project: Rideshare is funded by local, state, and federal authorities and is administered without charge in the Greater Cincinnati area by the Ohio-Kentucky-Indiana Regional Council of Governments (OKI).

Project: Rideshare

Ohio • Kentucky • Indiana Regional Council of Governments 426 East Fourth St. Cincinnati, Ohio 45202 • (513) 621-7060

PROJECT: RIDESHARE PROGRAM FACTS

SEPTEMBER, 1981

NAME OF PROGRAM:	PROJECT: RIDESHARE
OBJECTIVE:	To increase the regional vehicle occupancy ratio in order to decrease traffic volumes which will lead to cleaner air, energy savings, and a healthier community.
TYPE OF PROGRAM:	Computerized matching service for carpools and vanpools, transit referral information, and employer assistance in program formation.
SERVICE AREA:	Nine county OKI region, 2,717 square miles (1.6 million people).
INCEPTION:	March, 1980
SPONSOR:	Ohio-Kentucky-Indiana Regional Council of Governments.
ADDRESS:	426 East Fourth Street Cincinnati, Ohio 45202
PHONE:	(513) 241-RIDE or (513) 621-7060
CONTACT:	Gregory J. Westerbeck Project Manager
USAGE COST:	Free
FUNDING:	Federal Aid Urban System Funding, Local Match (75%-25%), National Demonstration Funds and Department of Energy Demonstration Funds.
SERVICES:	Carpool Matching - Individuals receive contact information for as many as 12 people who live near them, commute at about the same times, and work near them. Vanpool Matching - Is available for the general public at this time; coordination of information for employers. Transit Information - Individuals receive route schedules. 24-Hour Telephone Answering Service - For individuals or groups to request information or assistance.

(OVER)

241-RIDE

Discover Ridesharing ... The Group Savings Plan

PROMOTION:

Employer Meetings -- Employers and organizations are contacted to gain support and participation in the program.

Promotional Materials -- A complete range of promotional materials including brochures, posters, key tags, newsletter articles, etc. are available.

PSA's -- National PSA's run on local television stations: most carry PROJECT: RIDESHARE'S phone number. Thirty local radio stations have given PSA coverage.

Public Relations Officer -- Prepares materials for distribution to media and area groups.

Speakers Bureau -- Speakers are available to discuss ridesharing or related topics for civic groups and other organizations.

PARTICIPATION:

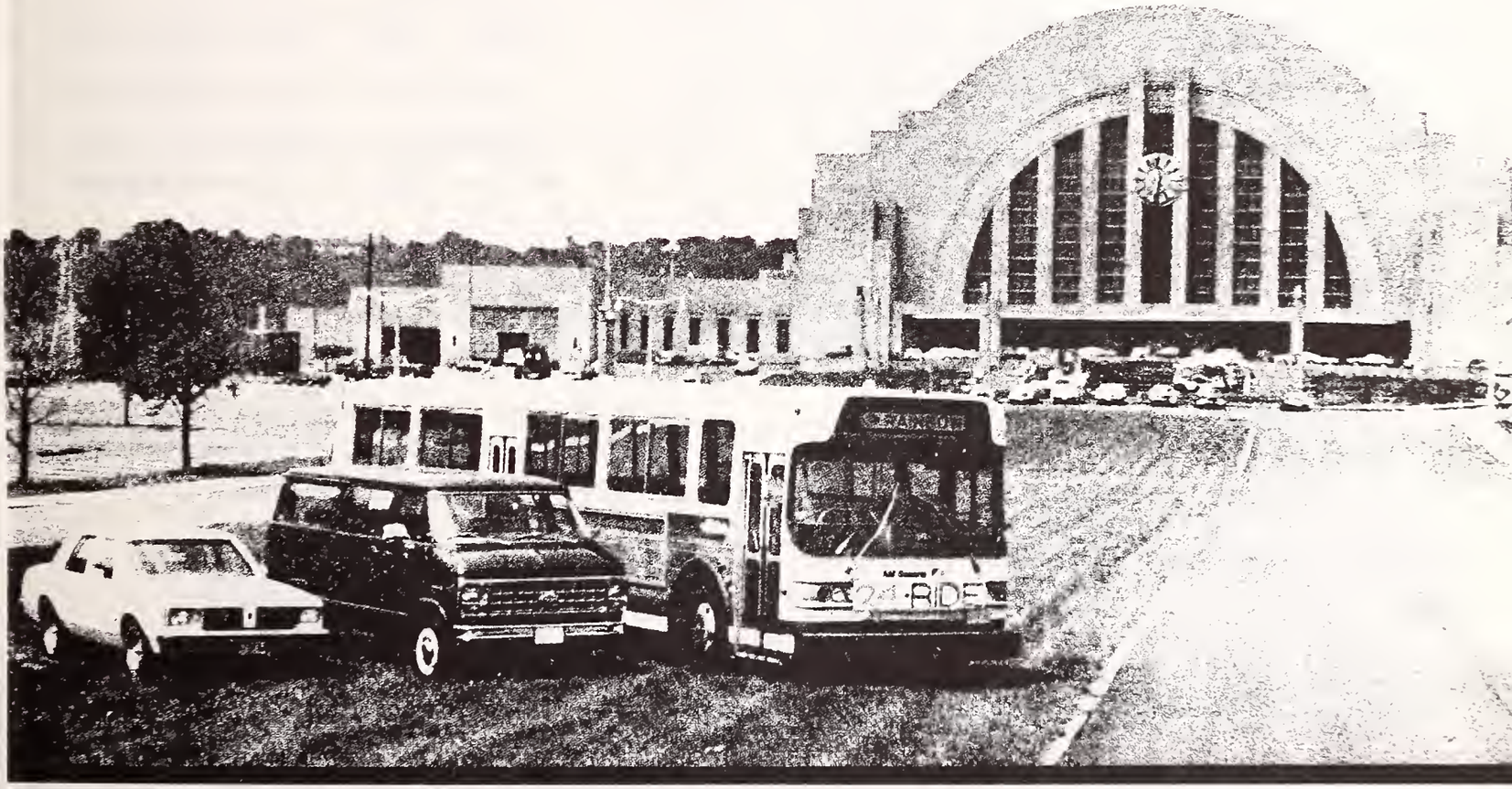
Company Sponsored Programs -- 50 companies have implemented programs through PROJECT: RIDESHARE'S services. Numerous other employers have adopted internal programs.

Commuters Requesting Assistance -- Over 9,000 individuals have requested ridesharing assistance to date. Currently, 7,000 applicants are in the ridesharing computer file.

RIDESHARING BENEFITS

- Reduced parking demand
- Reduced traffic congestion
- Improved access to distant labor markets
- Improved employee morale
- Improved corporate image
- Reduced employee tardiness and absenteeism
- Reduced company transportation related costs
- Reduced land use for auto - related facilities
- Reduced petroleum consumption
- Reduced air pollution
- Tax benefits
- Reduced personal transportation costs
- Reduced insurance costs to vanpoolers
- Convenience of someone else driving
- Less regular automobile maintenance
- Potential to develop new social relationships

Join Project: Rideshare and save!



Discover Ridesharing... the Group Savings Plan

CALL 241-RIDE

Project: Rideshare

Project: Rideshare is a community-wide ridesharing program sponsored by the Ohio-Kentucky-Indiana Regional Council of Governments and funded by the U.S. Department of Transportation (Federal Highway Administration and the Urban Mass Transportation Administration), the Ohio and Kentucky Departments of Transportation, the Ohio Department of Energy and local governments in the Northern Kentucky-Greater Cincinnati area.

Project: Rideshare

63186114,YNY,00
46,234/146,243

83056

Ohio • Kentucky • Indiana Regional Council of Governments 426 East Fourth St. Cincinnati, Ohio 45202 • (513) 621-7060

WALTER ZIMMER				
9066 LONG LA		WORK HOURS	PHONE NUMBER	MODE
CINCINNATI	OH 45231	8:00AM- 4:30PM FLEXIBLE	729-2284 HOME	E

THE FOLLOWING PEOPLE LIVE AND WORK NEAR YOU.

NAME		HOME ADDRESS	WORK HOURS	PHONE NUMBER	MODE
CAROL	BROWN	CINCINNATI OH	8:00- 4:30	872-5026 WORK	E
JOHN	WILLIAMS	8774 CONSTANCE LN CINCINNATI OH	FLEXIBLE	931-6127 HOME	R
PEGGY	KENDRICK	1275 FROST COURT CINCINNATI OH	FLEXIBLE	559-5021 WORK	R
THELMA	SHEPARD	8345 BOBOLINK DR CINICNNATI OH	FLEXIBLE	931-7914 HOME	R
AUGUSTO	GOMEZ	1172 LIVEOAK CT CINCINNATI OH	FLEXIBLE	522-0151 HOME	E
MELVA	HENN	305 WILLIAMS ST APT 2 CINCINNATI OH	FLEXIBLE	569-1136 WORK	R
BRADFORD	WIESIGER	119 RITCHIE AVE CINCINNATI OH	8:00- 4:30	761-1654 HOME	E
JOAN	FULTON	1042 HOLLYTREE DR CINCINNATI OH	FLEXIBLE	475-6923 WORK	E
LEOPOLD	ERTL	789 DENIER PL CINCINNATI OH	FLEXIBLE	931-4737 HOME	E
LYNNE	CARDILLAND	8116 KIRKLAND DR CINCINNATI OH	8:00- 4:30	931-6475 HOME	R

THE LAST LETTER AT EACH LINE OF INFORMATION REPRESENTS THE PERSON'S TRAVEL INTERESTS AS FOLLOWS:
R=RIDER D=DRIVER E=EITHER

Dear Commuter:

Thank you for your interest and support of ridesharing in the tri-state area. Above are the names of individuals who are interested in carpooling ,who have home and work locations similar to yours, and who have the same work hours.

We hope you will use this information immediately by contacting the other individuals on your match list and making arrangements for your carpool. The sooner you begin to rideshare, the sooner you will begin to save money, make new friends, reduce the frustration of traffic congestion and parking problems, and contribute to environmental improvements in our communities.

Should your information appear to be in error, please contact us as soon as possible so that we can make the necessary corrections.

241-RIDE

Discover Ridesharing ... The Group Savings Plan

TENTATIVE ACTIVITY SCHEDULE

Activities	Responsibility	Date
Assign personnel to meet with PROJECT: RIDESHARE staff for information.	Employer	
Decide upon distribution and collection method for application forms. Decide upon method to return information to applicants.	Employer	Determine at next meeting
Prepare necessary materials for distribution to employers (applications, posters, brochures, sample memos, letters, and newsletter materials).	PROJECT: RIDESHARE	Determine at next meeting
Execute promotional campaign:		
• Company newsletter • Company memo to employees • Letter to supervisors • Posters	Employer/ PROJECT: RIDESHARE	
Distribute application forms.		One week
Collect application forms.		One week later
Code applications, keypunch and computer process.	PROJECT: RIDESHARE	
Return completed packets to applicants.	PROJECT: RIDESHARE and/or Employer	Two weeks from time received
Meet with employers to review project, deliver summary computer report, and discuss continuation.	PROJECT: RIDESHARE	Three or four weeks after completion of project

NOTES:

TRI-STATE EMPLOYERS CURRENTLY PARTICIPATING IN RIDESHARING ACTIVITIES

Butler County

Champion International Corporation
Mosler Safe Company

Hamilton County

American Telephone & Telegraph (AT&T)
American Tool
Avon Products, Inc.
Baldwin-United Corporation
Beau Brummell Ties, Inc.
Bethesda Hospital
Central Trust Company
Chessie System
Cincinnati Bell, Inc.
Cincinnati Gas & Electric Company
Cincinnati Incorporated
Cincinnati Milacron, Inc.
City of Cincinnati, Ohio
Clopay Corp./Administrative Offices
Drackett Company
DuBois Chemicals
Emery Industries
Environmental Protection Agency
Federal Executive Board
Ficks-Reed Company
Fifth-Third Bank
First National Bank of Cincinnati
Formica Corporation
General Electric Company
Gibson Greeting Cards, Inc.
Globe Corporation
Hilton-Davis Chemical Company
Inmont Corporation
Internal Revenue Service
LeBlond, Inc.
Merrell-Dow Pharmaceuticals, Inc.
Monsanto Company - Port Plastics Plant
National Lead Company of Ohio
Nutone Div. - Scoville Manufacturing

Hamilton County (Cont.)

Procter & Gamble Company
R. L. Polk & Company
Rollmans Psychiatric Hospital
SHV
University of Cincinnati
Veterans Administration Medical Center
Western-Southern Life Insurance Company
Westinghouse Electric Company

Outside Ohio Counties

R. A. Jones Company, Inc.
Litton Unit Handling System
Signode Corporation

Project: Rideshare Benefits Everyone!*

To the Employer, it means:

- Reduced traffic congestion at place of business
- Less need for parking facilities and less wear on existing facilities
- Reduced absenteeism and tardiness
- Higher employee morale, resulting in greater efficiency
- Access to a broader labor market
- An enhanced community image through a visible display of energy conservation and environmental concern

To the Employee, it means:

- A savings of $300 to $1,000 annually on personal car operating, maintenance, and parking costs
- Mileage reduction on personal car, providing longer life
- An opportunity to be free of the need for a second car
- Possible reduction in automobile insurance
- More convenient and relaxing ride to work
- Opportunity to form new friendships and stronger work relationships

And the whole community benefits from:

- Conservation of gasoline and oil
- Reduction in air pollution
- Less traffic congestion
- Reduction in road construction and repair

Think of it! For every 4,000 people participating in Project: Rideshare, over one million personal car trips to and from work could be eliminated each year!

*Not included with this packet are three pamphlets originally bound into it: a carpooler's guide, a vanpooler's guide, and a Project Rideshare commuter matching application.

APPENDIX C.
PROJECT SURVEY
DOCUMENTATION

GREATER CINCINNATI SURVEYS

Project: Rideshare

Ohio • Kentucky • Indiana Regional Council of Governments 426 East Fourth St. Cincinnati, Ohio 45202 • (513) 621-7060

October 30, 1980

TO: FILE

FROM: SHERRY KELLEY MARSHALL, RIDESHARING COORDINATOR

RE: NARRATIVE SUMMARY OF PROJECT: RIDESHARE QUESTIONS ON THE MAY, 1980 GREATER CINCINNATI SURVEY

INTRODUCTION

The Greater Cincinnati Survey is a cost-shared random probability survey of citizens (18 and over) living in the Cincinnati metropolitan area. It is composed of the following three separate, yet complimentary surveys:

- Hamilton County Survey of Hamilton County citizens; (1,520 contacts)
- Northern Kentucky Survey of Boone, Campbell and Kenton Counties; (1,129 contacts)
- Clermont County Survey of Clermont County Citizens; (610 contacts)

In order to have some attitudinal and statistical information to serve as a base point in evaluating PROJECT: RIDESHARE's efforts, PROJECT: RIDESHARE purchased the following four questions on each of the three surveys which comprise the May, 1980 Greater Cincinnati Survey:

1) Do you drive to work or school by yourself, do you carpool or vanpool, do you take the bus or do you get to work or school in some other way?

2) Has your employer/school made information on carpooling or vanpooling available to employees/students?

3) Do you know of any place or number to call for carpool information? (If yes, what/where is that?)

4) What does the term "ridesharing" mean to you?

PROJECT: RIDESHARE QUESTIONS

PROJECT: RIDESHARE purchased questions on all three components of the Greater Cincinnati Survey in order to reach as many citizens of the region as possible. By purchasing questions on all three components, only Butler and Warren County citizens were not specifically surveyed. In light of the similarity of results in both the Hamilton and Clermont County surveys, it is reasonably safe to assume that Butler and Warren Counties are probably not dramatically different from the other two counties which comprise the Ohio portion of the project's regional coverage.

SURVEY RESULTS

The results of our survey questions are detailed in the tables and narrative below:

QUESTION 1

Commute Mode	Hamilton County	Clermont County	Northern Kentucky
Drives by self	65.8%	69.5%	66.3%
Carpools or has riders	16.6%	24.7%	19.7%
Vanpools	.1%	.0%	.2%
Bus	8.8%	.5%	8.4%
Walks	5.9%	2.1%	.5%
Bicycle, Motorbike	.8%	.7%	.5%
Other	2.0%	2.5%	1.5%

For the most part, the commute mode statistics are similar in each of the three surveys. There is a higher incidence of carpools in Clermont County than the other areas and a significantly lower amount of bus travel which is understandable since CART's services are not as extensive as SORTA's or TANK's. This mode breakdown is not surprising, though the statistics for carpooling were higher than expected.

QUESTION 2

Employer Information	Hamilton County	Clermont County	Northern Kentucky
Yes	30.7%	27.2%	22.9%
No	69.3%	72.7%	77.1%

PROJECT: RIDESHARE staff anticipated a higher percentage of respondents indicating their employers had made information on ridesharing available, particularly since energy conservation has been a major concern in the last couple of years. It is understandable that the percentage of people hearing about ridesharing is highest in Hamilton County where the major employers in the region are located. Since Northern Kentucky has had a ridesharing program with employer outreach in the past year and many Kentuckians work for Hamilton County companies, the low percentage of "yes" responses is unexpected.

Question 3 yielded a variety of responses, which are summed into two categories--Yes and No. For a specific detailing of the responses and their frequency, consult pages 49, 174, and 395 of the data printouts.

QUESTION 3

Place for Information		Hamilton County	Clermont County	Northern Kentucky
No	NO	85.1%	90.5%	90.1%
Don't Know	NO	2.4%	2.5%	1.8%
Some king of answer	YES	12.5%	7.0%	8.1%

Of the answers given, the "241-RIDE" number was only given 1 time by a Hamilton County resident, 3 times in the Northern Kentucky survey, and not at all in the Clermont County survey. Several respondents in all three surveys felt they could get information by calling City Hall, OKI, or the Chamber of Commerce. In Clermont County, 5 respondents felt they could call CART. Next to the answer "No" "available at work" was the second highest frequency answer, with 51 respondents in Hamilton County, 21 in Northern Kentucky and 8 in Clermont County.

The responses to Question #4 were even more varied than Question #3, especially with the editorial comments. A detailed breakdown of these responses can be found on pages 51, 175, and 396 of the computer printouts. For the purpose of this summary, these responses are being divided into two categories, "never heard of it/don't knows" and "some kind of definition or comment."

QUESTION 4

Define "Ridesharing"	Hamilton County	Clermont County	Northern Kentucky
Never heard/Don't know	11.6%	14.0%	18.0%
Some kind of definition	88.4%	86.0%	82.0%

Clearly the majority of citizens are familiar with the work at least enough to offer a definition, however, the responses should be carefully reviewed because many represented negative editorial comments rather than actual definitions. The most common responses were "carpooling" "sharing a ride" and "take turns driving" which represented approximately 40% of the responses on each of the three surveys.

DEMOGRAPHIC ANALYSIS

By participating in the Greater Cincinnati Survey, PROJECT: RIDESHARE also obtained information on the demographics of the population sample and cross-tabulations of our questions against the individual variables. The following demographic variables were obtained as part of the survey:

- Age
- Sex
- Race

- Occupation
- Education
- Marital Status
- Religious Preference
- Household Size
- Number of children and number of adults in household

According to Bob Oldendick, the technical services director for the surveys, there are no statistically significant relationships between any of the demographic variables and responses to the questions. However, though not statistically significant, there is an understandable increased incidence of an appropriate definition of ridesharing in proportion to education.

Perusal of the computer printouts and cross-tabulations may reveal other relationships if staff have available time for such efforts. However, the main objective for participating in the Spring, 1980 Greater Cincinnati Survey was to establish base data against which PROJECT: RIDESHARE could evaluate its efforts in the spring of 1982, and without question this objective has been accomplished.

The results of our questions illustrate that 1) most people in the region are drive alone commuters but there are a good number of ridesharers; 2) most companies have not offered information on ridesharing to their employees, at least not in a fashion employees can remember; 3) an extremely limited number of people know of the 241-RIDE hotline, and 4) most people can define ridesharing but the definition tends to be mode-specific (carpooling).

If PROJECT: RIDESHARE meets its objectives and continues to provide the services it has begun providing, a repeat of the four questions on the 1982 Greater Cincinnati Survey should reveal 1) an increase in the number of people using commute modes other than drive-alone, 2) a significant increase in favorable responses about companies offering ridesharing information to employees, 3) a significant increase in the number of people able to identify our telephone line to call for ridesharing information, and 4) an increase in the number of people correctly defining ridesharing, with an attendant reduction in the amount of negative editorial comment.

The technical report and computer printouts received from the Behavioral Science Laboratory are available for reference in the PROJECT: RIDESHARE Library.

SKM:mah

RIDESHARE
IT'S GETTING AROUND

November 9, 1983

TO: GUILLAUME SHEARIN

FROM: GREGORY J. WESTERBECK, PROJECT MANAGER

RE: COMPARISON 1980 and 1982 GREATER CINCINNATI SURVEY RESULTS

As you are aware, in 1982 the Greater Cincinnati survey was conducted in Hamilton County only. There were 1,517 contacts made and 1,095 completed interviews. The same four questions were purchased in 1980 and 1982. Below is a comparison of 1980 and 1982 responses.

SURVEY RESULTS

Questions 1

Commute Mode	Hamilton County 1980	1982	Change
Drives by self	65.8%	70.7%	+4.9
Carpools - has rider	16.6%	12.3%	-4.3
Vanpools	.1%	.4%	+ .3
Bus	8.8%	7.7%	-1.1
Walks	5.9%	5.5%	- .4
Motorbike	.8%	.7%	- .1
Other	2.0%	2.7%	+ .7

Question 2

Employer Information	Hamilton County 1980	1982	Change
Yes	30.7%	32.3%	+1.6
No	69.3%	67.7%	-1.6

241-RIDE

Ohio • Kentucky • Indiana Regional Council of Governments 426 East Fourth St. Cincinnati, Ohio 45202 • (513) 621-7060

Question 3

Place for Information		Hamilton County 1980	1892	Change
No	NO	85.1%	56.2%	-28.9
Don't Know	NO	2.4%	1.1%	- 1.3
Some kind of answer	YES	12.5%	42.7%	+30.2

Question 4

Define "Ridesharing"	Hamilton County 1980	1982	Change
Never heard/Don't know	11.6%	8%	-3.6
Some kind of definition	88.4%	92%	+3.6

GJW/lsc

1981 SURVEY METHODOLOGY AND QUESTIONNAIRE (U. of Cincinnati)

SURVEY METHODOLOGY*

In the summer of 1981 a survey was developed by PROJECT: RIDESHARE; James Evans, Ph.D., University of Cincinnati, College of Business Administration; and Mike Thomas, graduate research assistant, to evaluate the OKI regional ridesharing program. The survey concentrated on the use of the matchlists supplied, commuter characteristics, mode shifts, and attitudinal variables. The survey was pretested and underwent one (1) major revision prior to general distribution.

On August 3, 1981, a ridesharing survey (Appendix A) was mailed to all applicants then in the computer Master File (6,637). Applicants who had applied through an employer program were sent a white survey form, while general public applicants were sent a yellow survey form. This system allowed for separate yet related analysis of the data. Of the 6,637 surveys mailed, approximately 1,000 (15%) were to general public applicants and 5,600 (85%) were to employer-based applicants.

Of the 6,637 surveys mailed, 1,393 useable forms were returned - a 21% sample. Of these, 1,082 (78%) applied to the program through employer sponsored efforts and 311 (22%) were from the general public.

To verify the survey sample as a representative set of the program applicants,

*From reference 8.

a comparison was made of the modal split between the surveys returned and the computer master file. The results are:

MODE	SAMPLE %	MASTER FILE %
Drive Alone	57.2%	54.26%
Bus	8.6%	11.48%
Carpool	29.8%	24.76%
Walk/Bike	0.7%	0.24%
Other	3.7%	9.05%

While there are slight variations between the different modes, these differences can be partially explained. Since PROJECT: RIDESHARE automatically assigns anyone who indicates multiple modes on an application form to the "Other" category, this would account for most of these minor differences. As a result, it is felt that, overall, the comparison of data between the survey sample set and the Master File should be accurate. That is, those responding to the sample seem to accurately reflect the whole data master file, so, conclusions drawn from the sample are probably accurate for all applicants.

RIDESHARE SURVEY

(Fall 1981)

Please make an "X" in the appropriate box or write in the space provided for each question. Only answer those questions which pertain to your commuting behavior. Your cooperation is greatly appreciated.

PART I TO BE COMPLETED BY EVERYONE

1. How did you hear about PROJECT: RIDESHARE & 241-RIDE? (Check all that apply)
   - [1] Employer
   - [2] Television
   - [3] Radio
   - [4] Newspaper/Magazine
   - [5] Highway Signs
   - [6] Other _____

2. How long ago did you apply?
   _____ Months

3. Did you receive a computer matchlist from PROJECT: RIDESHARE with names on it?
   [1] Yes [2] No (Please skip to #7)

4. Approximately how many names were on your matchlist? _____

5. How many names on the list appeared to be good carpool/vanpool partners? _____

6. How many people on the list did you try to call? _____

6a. If zero, what caused you not to call anyone? (Check all that apply)
   - [1] Lived too far away
   - [2] Worked too far away
   - [3] Work times different
   - [4] Already joined carpool
   - [5] No longer interested
   - [6] Reluctance to call strangers
   - [7] Other _____

7. How many people have called you? _____

8. Were you satisfied with the service you received from PROJECT: RIDESHARE?
   [1] Yes [2] Somewhat [3] No
   If No, why not? _____

9. How many miles do you live from work, one way? _____

10. Can you take the bus to work?
    [1] Yes [2] No [3] Don't know

11. How did you usually travel to work one year ago?
    - [1] Carpool
    - [2] Vanpool
    - [3] Drive Alone
    - [4] Walk, Bicycle
    - [5] Bus
    - [6] Other

12. Currently, how do you usually travel to work?

    [1] Carpool, [2] Vanpool, [3] Bus } Complete Parts III & IV

    [1] Drive Alone, [2] Walk, Bicycle, [3] Other } Complete Parts II & IV

PART II NON-RIDESHARERS ONLY

13. What has prevented you from ridesharing? (Check all that apply)
    - [1] No good matches available
    - [2] No transit service available
    - [3] Increased travel time
    - [4] Prefer to drive alone
    - [5] Dependency on others
    - [6] Irregular work hours
    - [7] Need car for work or non-work
    - [8] Reluctance to ride with strangers
    - [9] Other _____

14. Which incentives would persuade you to rideshare? (Check all that apply)
    - [1] Incentives do not matter
    - [2] Preferential parking
    - [3] Lower parking fees
    - [4] Flexible work hours
    - [5] Traffic lanes for carpoolers
    - [6] Contests, rewards
    - [7] Employer recognition
    - [8] Other _____

15. Have you ever shared the ride regularly? (3 or more times per week)?
    [1] Yes [2] No

16. What caused you to stop ridesharing? (Check all that apply)
    - [1] Work schedules changed
    - [2] A change of work location
    - [3] A move to a new residence
    - [4] Increased travel time
    - [5] No car to use during day
    - [6] Personal conflicts
    - [7] Tardiness
    - [8] Other _____

17. Do you know individuals whom you could rideshare with?
    [1] Yes [2] No

PART III CARPOOLERS, VANPOOLERS, AND PUBLIC TRANSIT USERS, ONLY

18. Do you feel that PROJECT RIDESHARE'S activities influenced you to rideshare?
[1] Yes [2] Somewhat [3] No

19. What were your main reasons for ridesharing? (Check all that apply)
[1] Save money
[2] Save energy or reduce air pollution
[3] Don't like to drive
[4] Most convenient way to go to work
[5] Make car available to others
[6] Like riding with others
[7] Other _____

20. How long have you been in your present form of ridesharing?
_____ Years _____ Months

21. When you joined your present carpool/vanpool, was it new or did it already exist?
[1] New [2] Existing

22. How did you usually travel to work before you began carpooling/vanpooling?
[1] Drove Alone [1] Walk, Bicycle
[2] Bus
[3] Other

→ 22a. How many EXTRA miles did you drive during each day, **not** including mileage to and from work?
_____ Miles per day

23. How many days per week do you usually travel to work by ridesharing? _____

24. When you commute by ridesharing, is your car being used by another driver who did not have a car available before?
[1] Yes [2] No

24a. If yes, about how many miles per day on the average? _____

25. What are the things that you do not like about ridesharing? (Check all that apply)
[1] Increased travel time
[2] Lack of flexibility
[3] Dependency on others
[4] Tardiness
[5] Personal conflicts
[6] No dislikes
[7] Other _____

26. How satisfied are you with your present commuting arrangement?
[1] Very [2] Somewhat [3] Not Satisfied

(QUESTIONS FOR CARPOOLERS & VANPOOLERS ONLY)

27. How many people are in your present carpool/vanpool (including yourself)?

_____

28. How many different carpools/vanpools have you been in during the last 5 years?

_____

29. As a member of your carpool/vanpool, how often do you drive?
[1] Never
[2] Alternate (how often?) _____
[3] Always

30. On days that you drive for your carpool/vanpool, how many EXTRA miles do you drive one way? _____ Miles, one way.

PART IV TO BE COMPLETED BY EVERYONE

31. What is the zip code where you work?

_____

32. What is the zip code where you live?

_____

33. What is your age category?
[1] Under 25
[2] 25 to 30
[3] 31 to 40
[4] 41 to 50
[5] 51 to 65
[6] Over 65

34. How many vehicles are normally available for use by members of your household?

_____

35. How many licensed drivers are in your household (including yourself)?

_____

36. What is your sex?
[1] Male [2] Female

37. What is your present occupation?
[1] Secretary/Clerical
[2] Professional
[3] Manager/Administrator
[4] Sales or Service Representative
[5] Mechanic/Machinist
[6] Production Worker
[7] Technical/Engineering
[8] Other _____

38. What is the highest level of education you have completed?
[1] Grade School
[2] High School
[3] Vocational or Trade School
[4] Some College
[5] Finished College
[6] Advanced College Degree

1982 SURVEY METHODOLOGY AND QUESTIONNAIRE (Project Rideshare)

SURVEY METHODOLOGY*

In the fall of 1982, a survey was developed by PROJECT: RIDESHARE. As with all program components undertaken by PROJECT: RIDESHARE, two factors were first considered when deciding the method of implementing the yearly survey: economy and accuracy. After analyzing the options, which included a mail survey to all applicants, a mail survey to a sample of applicants, or a phone survey to a sample of applicants, the economies of sampling were realized. When considering the accuracy component, it was realized that a phone survey would be necessary. To create the phone survey, last years mail survey was analyzed and adjusted for clarity, briefness, and reduce ambiguity. Secondly, after discussions with the University of Cincinnati's Behavioral Science Department, a statistically significant sample size was arrived at and a random sample selected from the computer Master File.

Beginning November 22, 1982, two part-time phone surveyors began making calls. Based on a total file size of 9,500 applicants, it was realized that at least 450 completed surveys would be needed for accurate analysis. By December 6, 1982, 561 phone surveys had been conducted: 437 with employer applicants and 124 with general public applicants (a skewed sample).

*From reference 9.

(Fall 1982)

SURVEYORS NAME: _____ NO INTERVIEW: _____

DATE OF INTERVIEW: _____ A.M./P.M. CALL BACK: _____ A.M./P.M.

NO LONGER THERE _____

RIDESHARE ANNUAL SURVEY

APPLICANTS NAME: _____ S.S. # _____

PHONE: _____ HOME/WORK _____

1. PART I - To be asked of everyone -

   1) Did you receive a computer matchlist from PROJECT: RIDESHARE with names on it?

   ____ YES ____ NO (Skip to #4)

   2) Did any of the names on the list appear to be good carpool or vanpool partners?

   ____ YES ____ NO

   3) Did you try to call any of these people?

   ____ YES ____ NO

   4) Has anyone who received information from PROJECT: RIDESHARE called you about carpooling or vanpooling?

   ____ YES ____ NO

   5) Were you satisfied with the service you received from PROJECT: RIDESHARE?

   ____ YES ____ NO ____ SOMEWHAT

   6) How many miles do you live from work, one way?

   ____ MILES

7) How did you usually travel to work before applying to PROJECT: RIDESHARE? (Choose one (1) only).

____ CARPOOL

____ VANPOOL

____ BUS

____ DRIVE ALONE

____ WALK/BIKE

____ OTHER

8) Currently, how do you usually travel to work? (Choose one (1) only).

____ CARPOOL

____ VANPOOL GO TO PART II

____ BUS

____ DRIVE ALONE

____ WALK/BIKE GO TO PART III

____ OTHER

2. PART II - To be asked to current ridesharers -

9) Do you feel that PROJECT: RIDESHARE'S activities influenced/ assisted you to rideshare?

____ YES ____ SOMEWHAT ____ NO

10) When you commute by ridesharing, is your car being used by another driver who did not have a car available before?

____ YES ____ NO

11) Are you satisfied with your present commuting arrangements?

____ YES ____ NO

- For Carpoolers/vanpoolers only. Bus riders go to Part IV -

12) When you joined your present carpool/vanpool, was it new or did it already exist?

____ NEW ____ EXISTING

13) How many people are in your present carpool/vanpool (including yourself)?

____

14) As a member of your carpool/vanpool, do you drive?

____ ALWAYS ____ ALTERNATE (sometimes) ____ NEVER

- Go To Part IV -

3. PART III - To be asked to Non-Ridersharers -

15) What has prevented you from ridesharing? (Ask in sucession and check off).

____ NO GOOD MATCHES AVAILABLE

____ INCREASED TRAVEL TIME

____ PREFER TO DRIVE ALONE

____ DEPENDENCY ON OTHERS

____ IRREGULAR WORK HOURS

____ NEED CAR FOR WORK

____ RELUCTANCE TO RIDE WITH STRANGERS

____ NO TRANSIT SERVICE AVAILABLE

____ OTHER _____

16a) Have you every tried ridesharing on a regular basis? (2 or more times per week)?

____ YES ____ NO (Skip to #18)

16b) With people referred to you from PROJECT: RIDESHARE?

____ YES ____ NO

17) What caused you to stop ridesharing?

____ CHANGE OF COMMUTE SCHEDULE (HOURS/LOCATION, ETC.)

____ PERSONAL CONFLICTS/INCONVENIENCE

____ OTHER _____

18) Would you use one of the following rideshare options to get to work if the opportunity were available?

CARPOOL ____ YES ____ NO

VANPOOL ____ YES ____ NO

BUS ____ YES ____ NO

4. PART IV - To be asked to everyone -

19) I am going to read several age categories. Tell me when I mention yours.

____ UNDER 25

____ 25 to 30

____ 31 to 40

____ 41 to 50

____ 51 to 65

____ OVER 65

20) What is your present occupation?

_____

(CHECK APPROPRIATE CATEGORY LATER)

____ Professional Services

____ Skilled Labor

____ Secretary/Clerical

____ Manager/Administrator

____ Sales or Service Representative

____ Production Worker

____ Technical/Engineering

____ Other

21) Check when finished.

____ MALE ____FEMALE

ANY ADDITIONAL COMMENTS: _____

_____

_____

_____

_____

THANK YOU FOR YOUR TIME....BYE

R E F E R E N C E S

1. Ridesharing in the OKI Region: Scope of Services, Prepared by Ohio-Kentucky-Indiana Regional Council of Governments, Cincinnati, Ohio 45202, November 30, 1979.

2. OKI Information Guide, Prepared by Ohio-Kentucky-Indiana Regional Council of Governments, Cincinnati, Ohio 45202, September 1979.

3. Asin, R., and P. Svercl, Nationwide Personal Transportation Study, Home-to-Work Trips and Travel, Report No. 8, U.S. Department of Transportation, August 1973.

4. Ridesharing in the OKI Region: Scope of Services, Prepared by Ohio-Kentucky-Indiana Regional Council of Governments, Cincinnati, Ohio 45202, April 1981.

5. Margolin, J., et al, Incentives and Disincentives to Ridesharing: A Behavioral Study, Transportation Research Board, 1977.

6. Marketing Plan for PROJECT: RIDESHARE, prepared by Project Rideshare, March 1980.

7. "Riders' Digest," published by Project Rideshare, January 1982

8. PROJECT: RIDESHARE - An Analysis of Operations, March 1980 - March 1982, prepared by OKI Regional Council of Governments, Cincinnati, Ohio, June 1982.

9. PROJECT: RIDESHARE - An Analysis of Operations, January 1982 - December 1982, prepared by OKI Regional Council of Governments, Cincinnati, Ohio, February 1983.

10. Wagner, F., Evaluation of Carpool Demonstration Projects, U.S. Department of Transportation, 1978.

11. Glazer, L., and J. Shu, Carpool Program Evaluation, Prepared by Commuter Transportation Services, Inc., Los Angeles, May 1979.

12. Curry, D., J. Glazer, M. Misch, J. Margolin, and G. Shearin, Guidelines for Using Vanpools and Carpools as a TSM Technique, NCHRP Report 241, December 1981.

13. Shearin, G., Evaluation of Suburban Commuting Alternatives: A Comprehensive Approach, Ph.D. Dissertation, Stanford University, May 1978.

14. Haney, D., Benefit/Cost Analysis of the Five-Corridor Rapid Transit System for Los Angeles, Prepared by SRI, Menlo Park, CA, 1968.

15. Continental Oil Company, "Van Pooling: A commuting Alternative that Works", Continental Oil Company, Houstan, Texas, 1976.

16. 1982 Accident Data on California State Highways (road miles, travel, accidents, accident rates), California Department of Transportation, Sacramento, CA 1983.

17. Curry, D., G. Shearin, and N. Klein, Evaluation of Seattle/King County Commuter Pool Program, Final Report, Prepared by Crain & Associates and National Ridesharing Group, June 1981.

18. Shearin, G., "Demand for Carpooling and Vanpooling," a paper presented at the 1982 Annual Meeting of the Transportation Research Board, Washington, DC, January 1982.

19. Wagner, F., TSM: An Assessment of Impacts, U.S. Department of Transportation, November 1978.

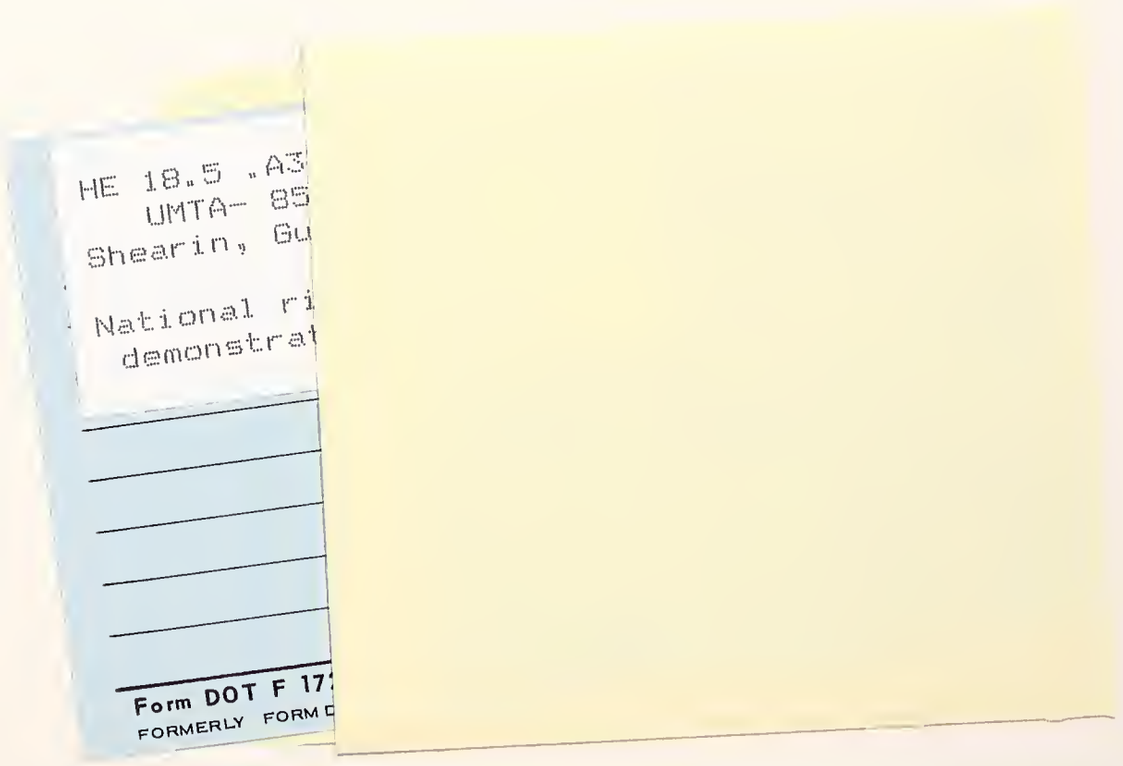
20. Westerbeck, Gregory, "A Summary: Legal Issues in Ridesharing," Project Rideshare, May 1981.

21. Legal Issues in Ridesharing: A Discussion of Appropriate Legislation in the States of Ohio, Kentucky, and Indiana, prepared by Project Rideshare, July 1980.

22. "PROJECT: RIDESHARE, Community-Based Ridesharing Program," prepared by Project Rideshare, 1981.

23. Analysis of the Ride Pool Lot Program in the City of Cincinnati, prepared by Project Rideshare, September 1980.

☆ U S. GOVERNMENT PRINTING OFFICE: 1986--600-700--20,185


HE 18.5 .A3
UMTA- 85
Shearin, Gu
National ri
demonstrat
Form DOT F 17
FORMERLY FORM D

DOT LIBRARY
00353152